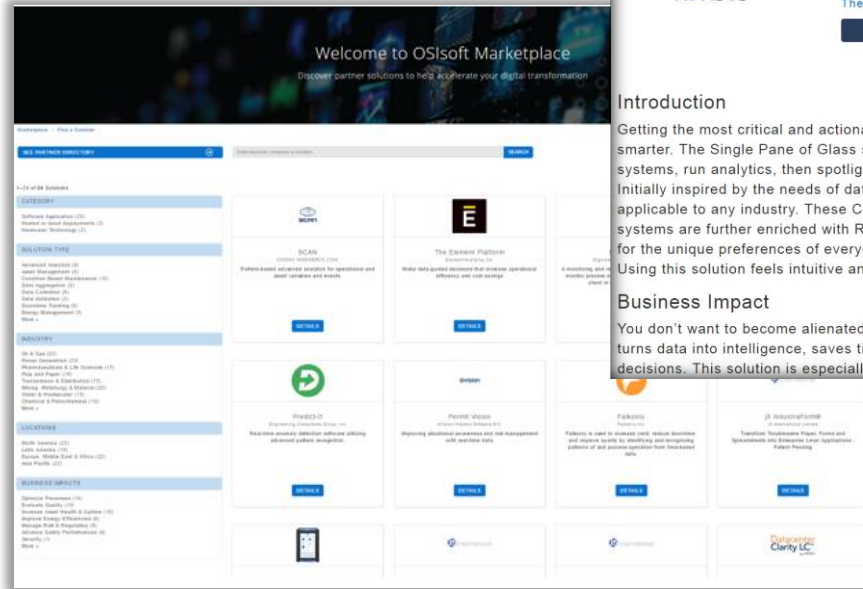


# The OSIssoft Marketplace

## Your next transformation, one click away.



**ROVISYS**

Single Pane of Glass Solution

The Rovisys Company

[LEARN MORE](#) [REQUEST A DEMO](#)

### Introduction

Getting the most critical and actionable information from your facility's monitoring systems just got smarter. The Single Pane of Glass solution by RoviSys lets you monitor data from disparate systems, run analytics, then spotlight selected information to serve the individual needs of users. Initially inspired by the needs of data center facilities, the Single Pane of Glass solution is now applicable to any industry. These Coresight driven dashboards for utilities, mechanical and facility systems are further enriched with RoviSys-designed custom widgets. Dashboards are designed for the unique preferences of everyone from the CEO to the facility and maintenance groups. Using this solution feels intuitive and encourages achievement of pre-set performance goals.

### Business Impact

You don't want to become alienated from your data, nor a slave to it. This streamlined solution turns data into intelligence, saves time, generates efficiencies, and improves accuracy of decisions. This solution is especially welcomed by facility managers who want a complete visual

<https://partners.osisoft.com/solutions/solution/182/single-pane-of-glass-solution>



# Single Pane of Glass Solution

Presented by **Brian Polaski – Facilities Manager**



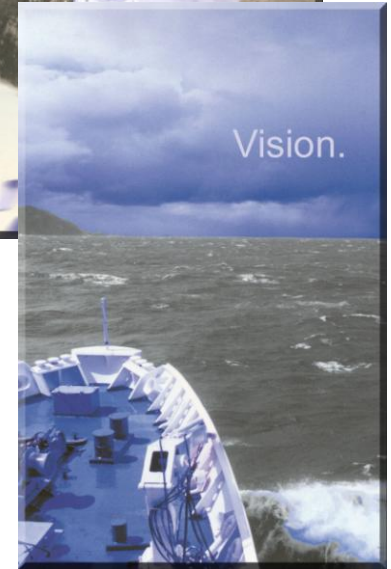
# Agenda

- RoviSys Overview
- Data Center **Facility** Challenges
- Single Pane of Glass Solution Benefits
- Single Pane of Glass Solution Overview
- Demo
- Q&A

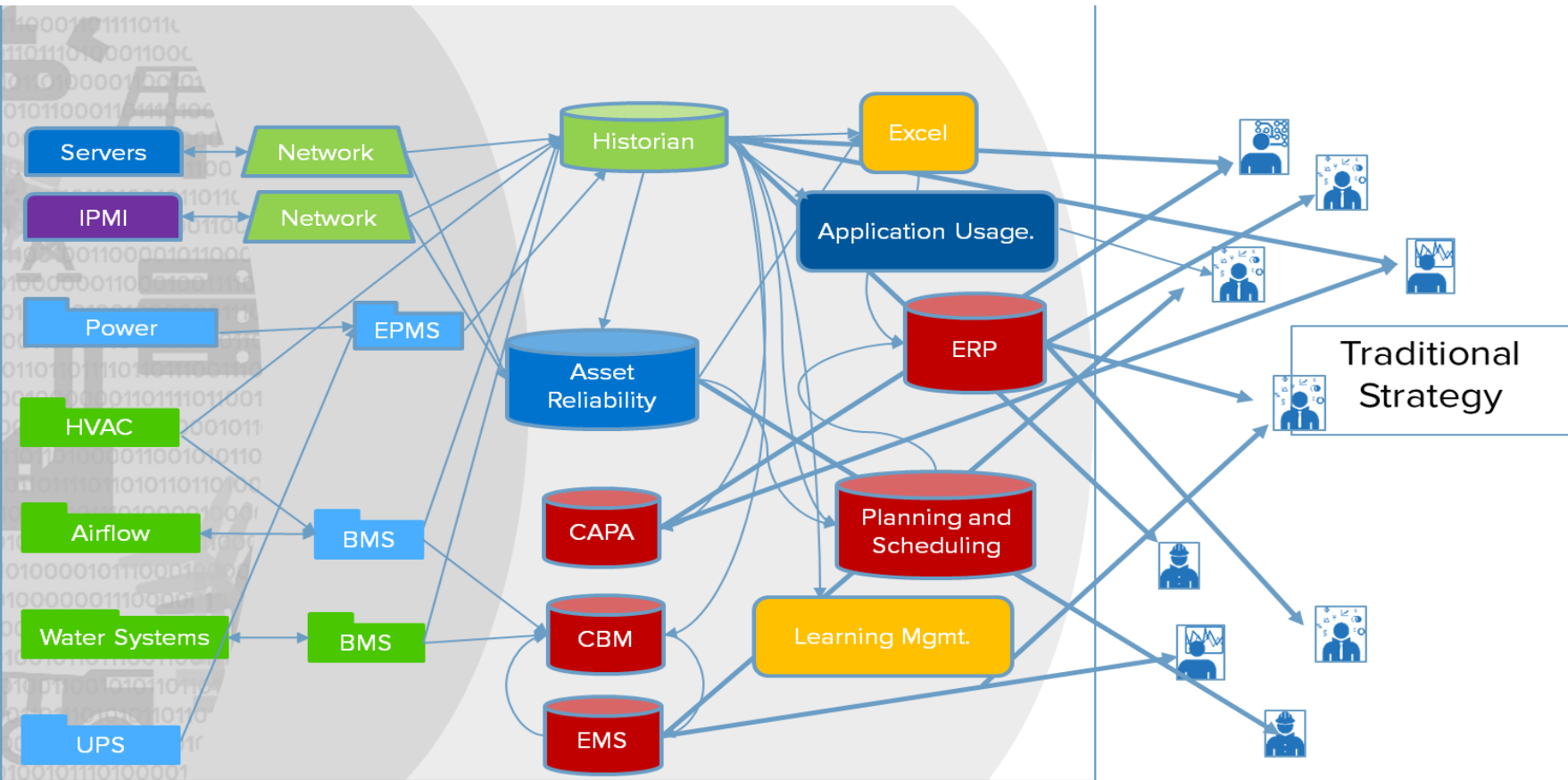
# Rovisys

***RoviSys provides value-added technical services for process industries***

- Business Focus:
  - Process Automation
  - Manufacturing IT & MES
  - Network and Software Development
  - Electrical Engineering Services
  - Software Products
- Growth - repeat business and long term relationships
- Independent – key vendor relationships
- Diversified – Not dependent on a single industry or client
- Client Focused



# The Realities of Data Silos in a Data Center Facility

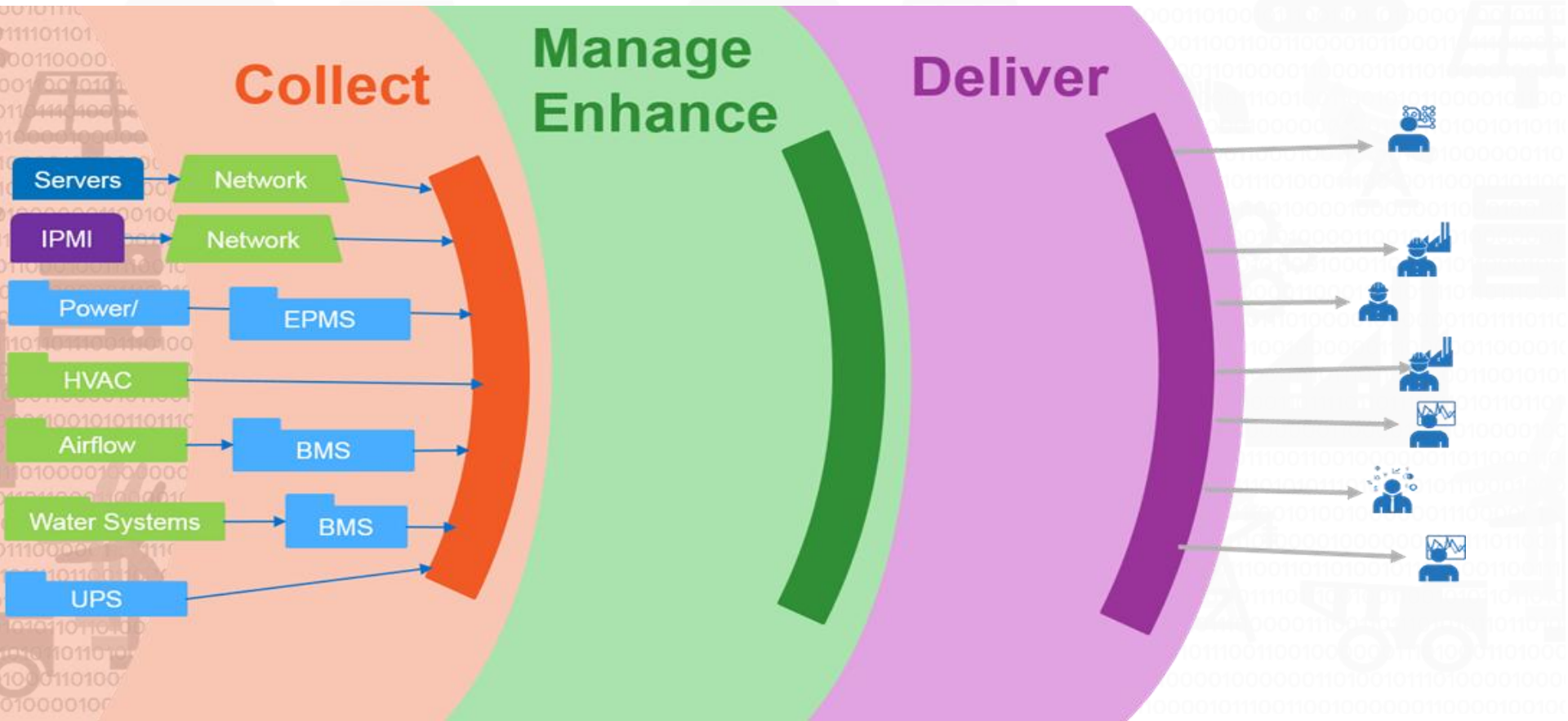


# The Business Challenges

- Limited data scalability
- Struggle to aggregate the data for a complete picture of operational integrity
- Unable to determine the utilization of the facility assets
- Difficult to measure the efficiency of the facility assets
- Trouble monitoring and reporting customer/business usage individually
- Unusable Alarming & Notifications

Traditional  
Strategy

# Silos to Standards / Complexity to Simplicity



# Enabler of the “Single Pane of Glass”

Collect

Manage  
Enhance

Deliver

Servers

IPMI

Power/

HVAC

Airflow

Water System

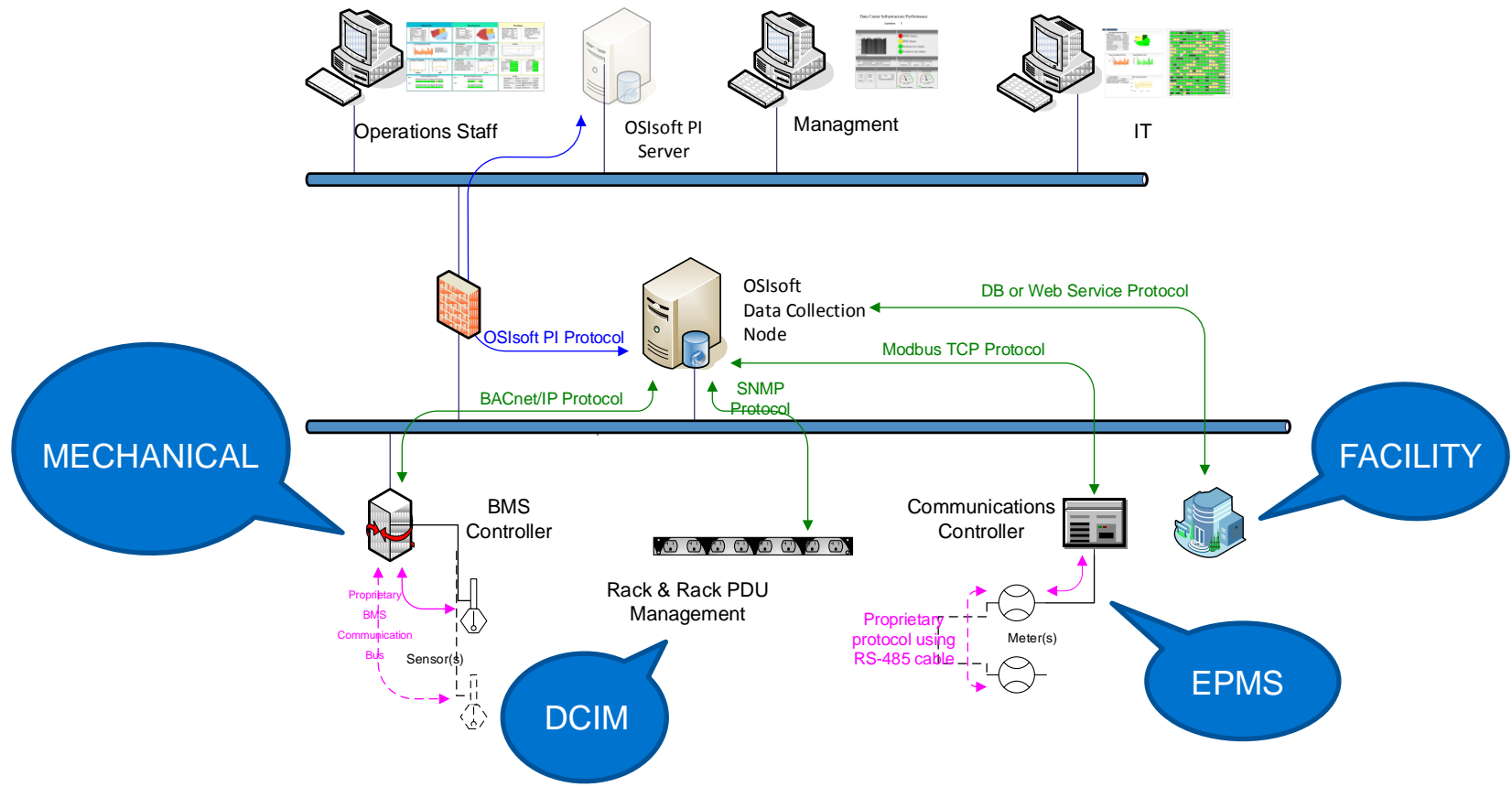
UPS

- PI System scales to handle high volume and high transaction rates
- Provides easy and relevant access to data for each level of the business as well as to various roles within the organization
- Breaks down the silos of information to improve business operations
- Custom Alarming
- RoviSys Industry and PI System Infrastructure integration experience





# Solution Architecture



# Templates w/ Analytics

## Device / System Examples:

### RPP

- Breaker Utilization
- PUE

### UPS

- UPS Efficiency

### PDU Strip

- Outlet Utilization
- Stranded Capacity

### Rack

- Power Density
- Capacity

## Electrical

- Power Consumption
- PUE
- DCiE

## Utility Totalizers

- Power Meter
- Gas Meter
- Water Meter

## Mechanical

- Daily total – cooling tower make-up water
- Chiller plant total thermal load – KW & tons
- Server floor air temperature & RH – average

# Transforming Data into The Single Pane of Glass



PDU Strip



**Real-time data:**

- Parameters**
- Strip Total Current
- Strip Total Power
- Strip Voltage
- Power / Outlet
- Current / Outlet
- Voltage / Outlet

**Asset Data:**

- Server Info**
- Server Name
- Max Power
- Idle Power
- Serial Number

DCIM Database  
Excel



**Analytics**

**PDU Strip**  
Outlet % Utilization

**Rack**  
Power Density  
Avg. Capacity Utilization  
Rack Temperature

**Rack Grouping**  
Avg. Power Density  
Avg. Capacity Utilization  
Rack Temperature



Status	Location	Notification Name	Trigger Time	End Time	Description
Completed	2	Completed	2013-07-17 11:34:00		
Active	2	Alerting	2013-07-17 11:34:00		
Completed	2	Completed	2013-07-17 11:34:00		
Completed	2	Completed	2013-07-17 11:34:00		
Completed	2	Completed	2013-07-17 11:34:00		

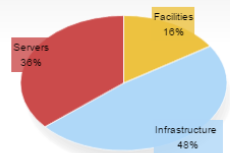
# Visualization (HTML5)

Home IT Dashboard

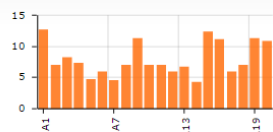
## Electrical

### Power Consumption

Infrastructure	3091 kw
General Servers	2268 kw
Facilities	996 kw
Total Building Power	6355 kw
PUE	2.802
DCIE	35.69%

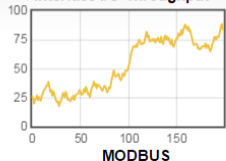


### Aisle Average Power Density

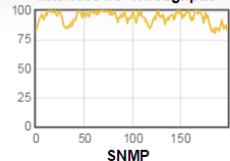


Total Aisles	20
Total Racks	300
Average PD	7.56 kw/R

### Interface I/O Throughput



### Interface I/O Throughput



### Electrical Equipment Alarms

Side A

MSB	RPP	ATS	GEN	DC Plant	Battery	UPS	PDU	MBC
■	■	■	■	■	■	■	■	■

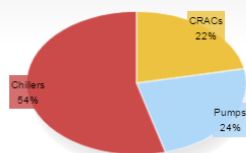
Side B

MSB	RPP	ATS	GEN	DC Plant	Battery	UPS	PDU	MBC
■	■	■	■	■	■	■	■	■

## Mechanical

### Mechanical Load

CRAC	350 kw
Pumps	386 kw
Chiller	872 kw
Chiller Capability	2973.5 BTU/hr
Total Mech Load	1609 kw



### CHW Indicators

Water Makeup	10.2 GPM
Nominal Flow Rate	510 GPM
Power Consumption	900 kw
Entering Temp	92 °F
Leaving Temp	52 °F
EER	10.9

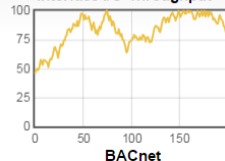
### CRAH Indicators

Total units in operation	6 of 8
Total thermal load	110 kw
Power Consumption	619 kw
Entering Temp	90 °F
Mixed Temp	71 °F
EER	10.9

### Server Floor

Air Temperature	68 °F
Relative Humidity	45%
Air Differential Pressure	510 GPM
Cold Aisle Temperature	68 °F
Hot Aisle Temperature	95 °F

### Interface I/O Throughput



### Mechanical Equipment Alarms

Side A

AHU's	Chillers	CRAC's	Pumps
■	■	■	■

Side B

AHU's	Chillers	CRAC's	Pumps
■	■	■	■

## Facilities

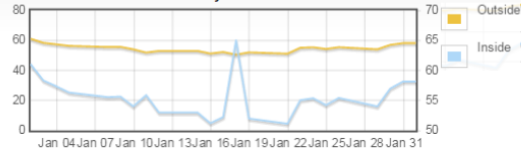
### Environmental Monitoring

Server Room	86 °F
Data Center	69 °F
Humidity	45%
AV/G Water Temp	30 °F
CUE	2.853 CO <sub>2</sub>

### Cycle Meter Readings

Water Usage	8,922 scf
Gas Usage	304.06 Therm
Cycle Number	4
<b>Outside</b>	
Outside Temp	71 °F

### Humidity



### Fire Alarms

Equipment Room	■
Data Hall	■
Data Room	■
Network Room	■
Office	■

### Leak Alarms

Chillers	■
CRACs	■
Boiler Room	■
Fuel Leaks	■
Glycol	■

### Security

Server Room 1	Vacant	Server Room 2	Occupied
Data Hall 1	Occupied	Data Hall 2	Occupied
Equipment Room 1	Occupied	Equipment Room 2	Vacant
Data Room	Occupied	Office	Vacant
Network Room	Occupied	Generator Yard	Occupied

# Visualization (PI Vision) and Alarms



**Electrical Equipment Alarms**

Side	GEN	MSB	ATS	UPS	PDU	RPP
Side A	0	0	0	1	0	0
Side B	0	0	0	0	1	1

# RoviSys PI Vision Widgets

### Data Center Density Description

Rack Power Utilization	
Rack Id	4528
Devices Power Load	9.94 Kw
Number Of Active Devices	24
Power Density	9.94 kW/Rack
Average Capacity Utilization	28.55%
Operating Temperature	83

### Capacity Utilization Per Device

### Power Per Device

Strip Outlet	Server Name	Serial Number	Alias/CName	Power Load	Status	Max Power	Idle Power	Utilization %
Outlet 1	Device1	309-779-2520	Device1	442.0622	OK	700 W	300 W	35.51075 %
Outlet 2	Device2	949-389-4878	Device2	417.2752	OK	700 W	300 W	29.30327 %
Outlet 3	Device3	699-808-7988	Device3	387.4473	OK	700 W	300 W	21.81452 %
Outlet 4	Device4	912-475-2710	Device4	386.3178	OK	700 W	300 W	21.59794 %
Outlet 5	Device5	358-489-5184	Device5	487.5319	OK	700 W	300 W	46.90433 %
Outlet 6	Device6	581-912-3684	Device6	371.2743	OK	700 W	300 W	17.85337 %
Outlet 7	Device7	661-701-5182	Device7	422.2888	OK	700 W	300 W	30.60384 %

Utility A (M) → MSBAMeter (RealPower: 656) → Main Switchboard "A"

- MSBAMB (RealPower: 620)
- MSBASPD
- MSBAGB (RealPower: 0)
- MSBBTB (RealPower: 0)
- MSBAUPSAFB (RealPower: 0)
- MSBAUPSASFB (RealPower: 390)
- MSBAMPAFB (RealPower: 130)

Max Power	Idle Power	Utilization %
700 W	300 W	17.3615 %
700 W	300 W	17.3615 %
700 W	300 W	34.83194 %
700 W	300 W	%
700 W	300 W	%
700 W	300 W	%

### Utilization

Display: Executive Dashboard Asset: ACME USA+ ▼

Ad Hoc Display

ROVISYS **Operation Dashboard** IT Dashboard Online Energy Overview Utility Cost Energy Report

**System Alarms**

- 3 EPMS Alarms
- 0 BMS Alarms
- 0 Leak Detection Alarms
- 0 Fire Detection Alarms

**ATS Readiness**

ATS A

Utility: ● Gen: ●

Primary Available ●  
Secondary Available ●  
Lock Out Alarm ●

ATS B

Utility: ● Gen: ●

Primary Available ●  
Secondary Available ●  
Lock Out Alarm ●

**UPS Readiness**

UPS A Battery Time Remaining

42 min

Power Source: ● Utility ●  
Summary Alarm: ●

UPS B Battery Time Remaining

36 min

Power Source: ● Utility ●  
Summary Alarm: ●

**Generator Readiness**

GEN A Fuel Level

5147 Gal

Engine Available ●  
Generator in Auto ●

Gen B Fuel Level

4914 Gal

Engine Available ●  
Generator in Auto ●

**Data Center Capacity**

IT Physical Space Utilization: 74 %

IT Power Capacity Utilization: 51 %

IT Cooling Capacity Utilization: 68 %

**Rack Density Metrics**

Average Rack Power Density: 9.35 kW/Rack

Avg Rack Outlet Utilization: 28 %

Data Center Total IT Power: 633 kW

PUE: 1.9

Power Consumption|DCIE: 53 %

**Rack Density Breakdown**

Name	Value ▲
IT Dashboard High Density	0
IT Dashboard Empty Racks	1 (1.37%)
IT Dashboard Low Density	2
IT Dashboard Medium Density	70
IT Dashboard Total Racks	73

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8h

Now

3/17/2017 9:15:37 PM

# Contact Information

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Facilities Manager

RoviSys





## Questions

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State your **name & company**

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Gracias

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