Turning **insight** into **action**.

EQUINIX

DST CONTROLS

Improving Productivity in Data Centers and Critical Facilities

Collaboration is key

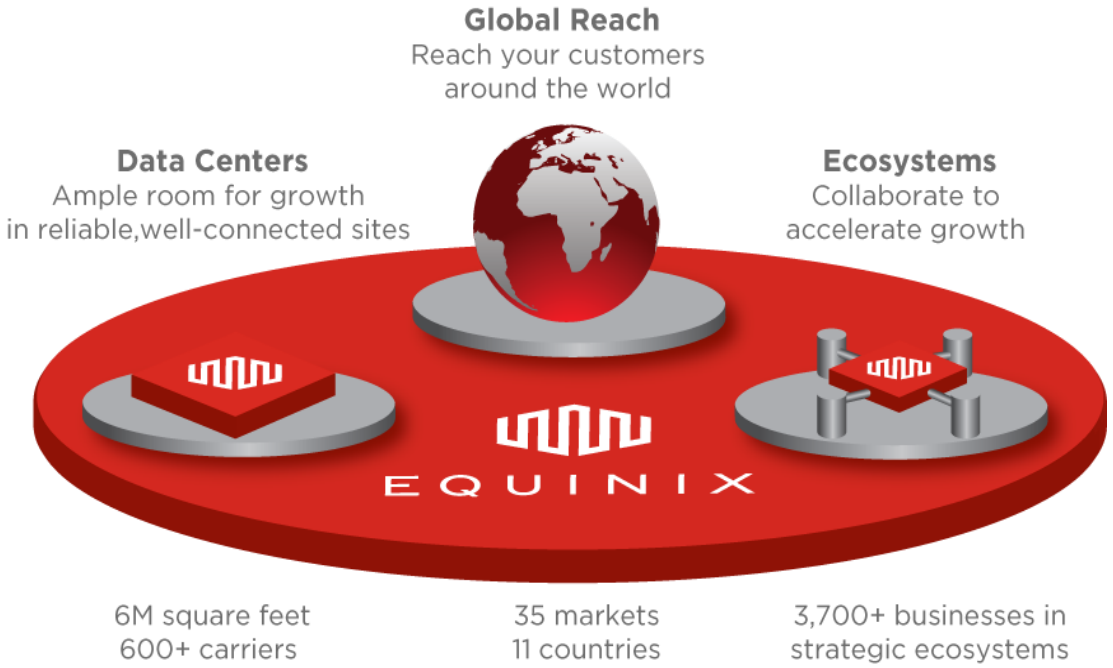
Presented by **Pamela Brigham, Equinix**

Greg Dumas, DST

Platform Equinix

Global Footprint

- **35 global** markets on 4 continents
- **Less than 10 ms of latency** to 90% of the United States and Western European population
- **600+** network service providers **200+** cloud service providers
- **300+** IT service providers

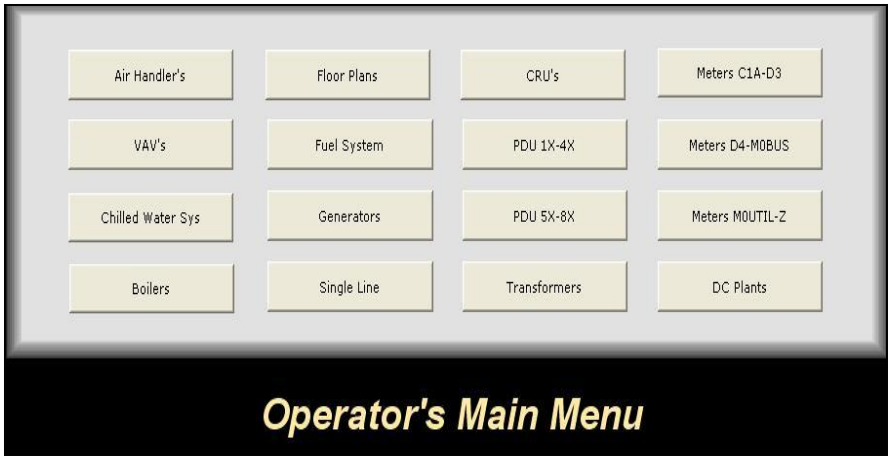


The Facility

- Located in Silicon Valley
- Raised Floor
- 54,488 sq ft color space
  - Colocation area divided into 4 rooms
- Central chilled water plant

The Problem

- Existing SCADA System
  - **Unsupported SCADA System**
- Graphics - excellent
- Equipment Diagnosis – good
- Capacity planning – *not good*
- Outage notification – *not good*
- Management reports – *useless*
- PUE – *useless*



Executives weren't getting performance information

Managers spent too much time creating spreadsheets

Engineers wasted time sorting through alarms

The Scope

Equinix Project Scope

- Establish stable, reliable infrastructure
- Fix Alarms
- Build some tools
  - simplify capacity planning – e.g. shows power panel capacity
  - monthly summaries – automatically generate monthly energy usage report
  - on-going Maintenance – e.g. procedure to set control points on cooling system

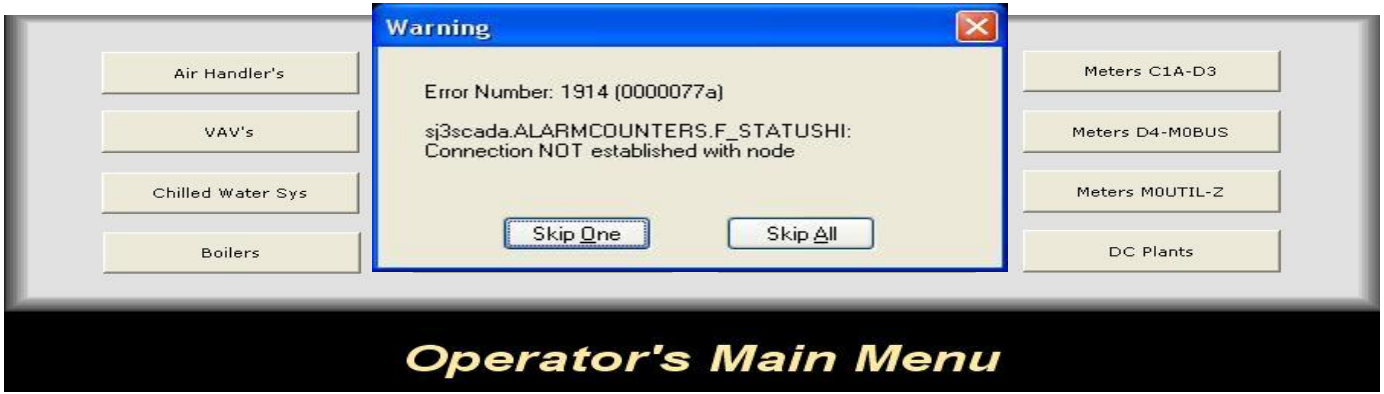
Vendor Selection

RFP Process

- Released specification
- Look at prices – sticker shock
- Chose DST Controls with the PI System
  - Qualified Staff
  - Knew PI & OSISoft
  - Worked with us on scope/pricing
  - Established software program

Some Issues

Tags had errors…



…caused by too many software vendors

The Fix

- Converted 15,000 tags from one data base to the PI System
- Converted 115 screens from HMI to the PI System
- Connected 108 controllers to the PI System
- Re-organized 2000 alarms & notifications
- 6 weeks!

After installing the PI System

Increased reliability – a lot

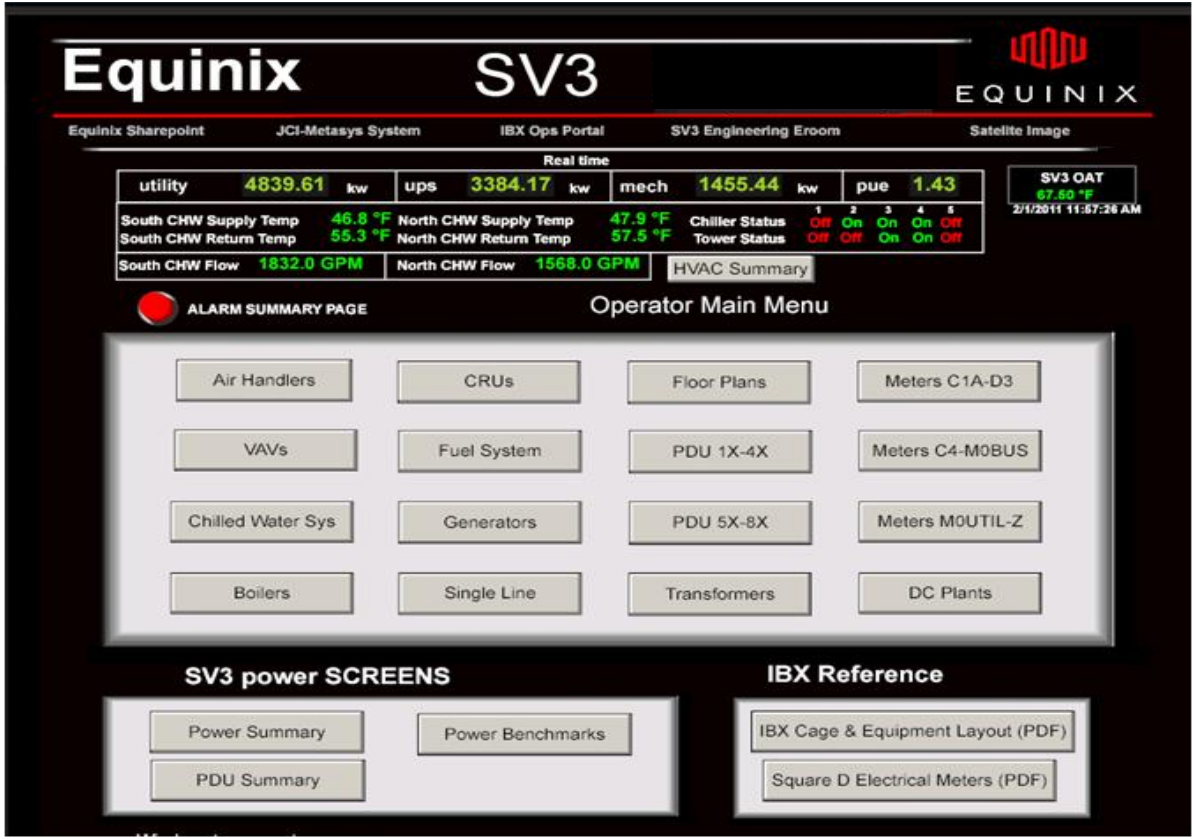
- Reduced software manufacturers from 6 to 1
- Reduced servers from 2 to 1
  - Two Scada servers replaced by 1 PI Server
  - Multiple single points of failure to none

Increased Performance and Capacity

More data available quickly to users

- Trending
- BCM Validation

The New System



What Changed at Equinix

- Plant engineers can now assess situations without becoming computer experts
- Replaced “management by spreadsheets” with real-time reports created by users
- Converted a potentially large and costly IT project into several inexpensive integration projects

Value to Equinix

- Reduced time to detect, repair outages
- Reduced time to install new customers
- Site Directors plan capacity rather than fill out spreadsheets
- Executives manage energy, staffing costs
- Plant Engineers more effective

What surprised us…

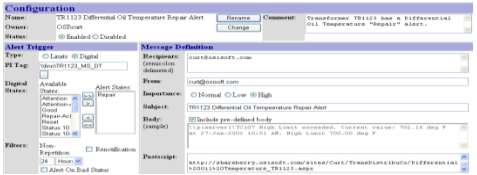
Many small projects were far more effective and easier to execute than a single big project

- Easier to justify and purchase
- Less specification cost
- Less cost to vendor to learn site specifics- i.e. “on-the-job” training.

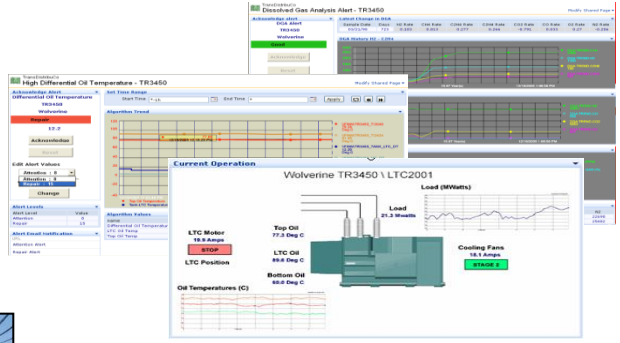
Why the PI System?

- Leader in Asset and facility management integration into BIM
- Only infrastructure capable of handling real-time data over 1M points on single server
- Fastest Infrastructure available – over 100,000 events per second
- Only open architecture platform from Data Connectors through applications – with development platform .net
- Only Infrastructure chosen by IT providers Microsoft, IBM, Cisco

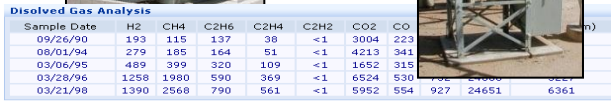
What's next



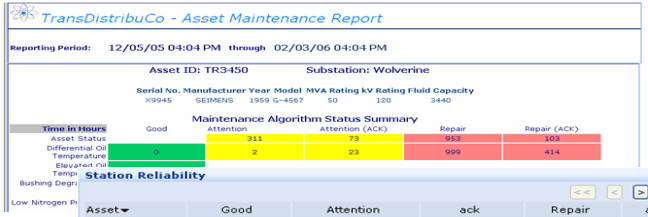
Alert Notification
Work Order Generation



Integrated Asset Information



Asset Framework
(PI and RDB)



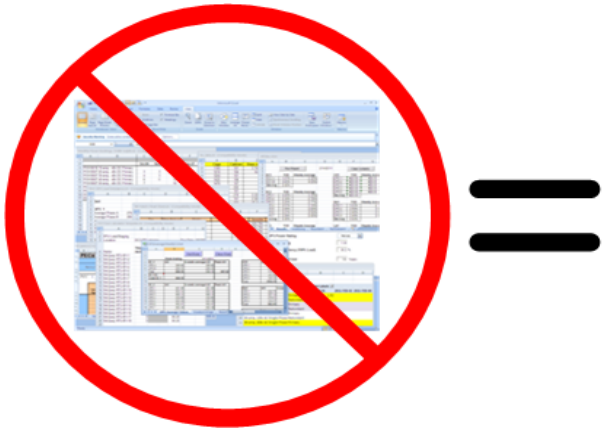
Asset Reliability

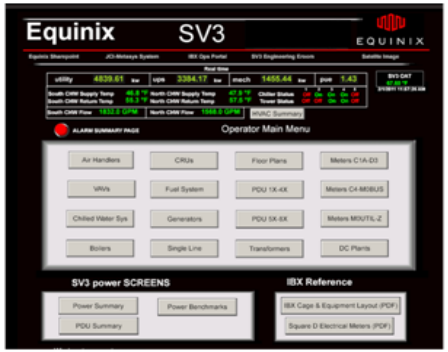
Real-time Rule
Assessment

Questions?

- Architecture
- Effectiveness

- Project Management
- Management by spreadsheets





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Thank you

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