

Business Analytics **Forum**



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Information is Power **Utility Outage & Map Integration with IBM Cognos BI**

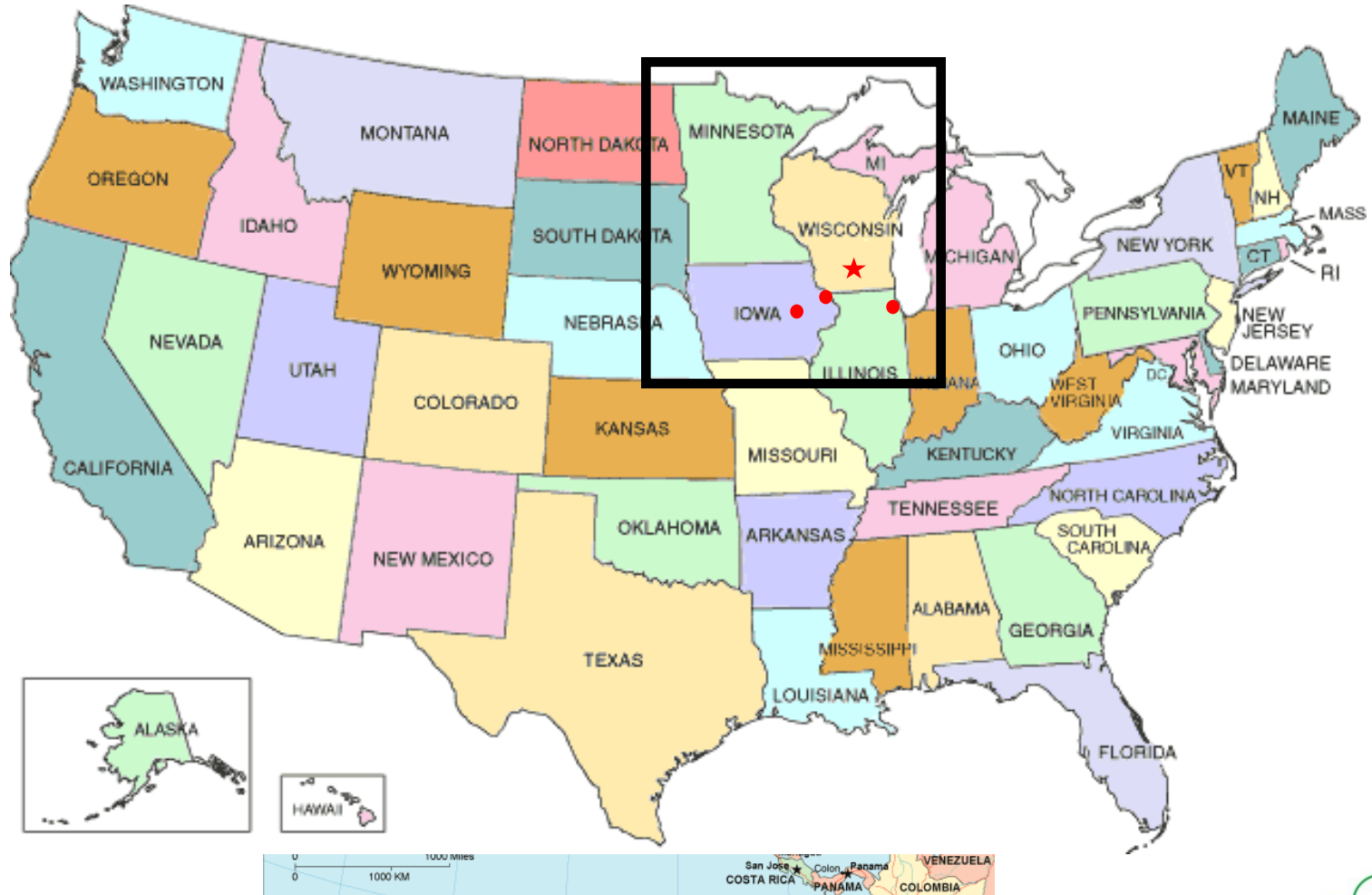
Ruth Hands
Alliant Energy



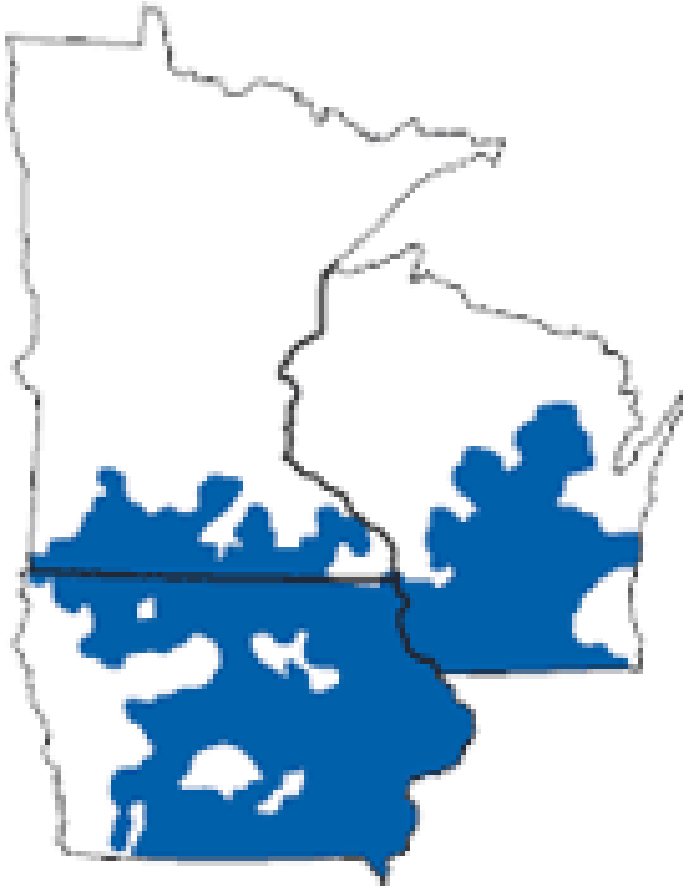
Rob Worthington
Certo



Where in the world is Alliant Energy?



What is Alliant Energy?

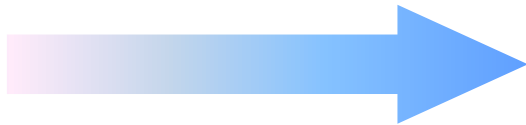


- Electric Customers: 1 Million
- Natural Gas Customers: 412,000
- Service Territory: 54,000 sq. miles
- 9,700 miles of electric transmission lines
- 8,000 miles of natural gas main
- Generate 31 Million MWH of electricity each year



Data Warehousing/Business Intelligence at Alliant Energy

Toolset: Erwin, Oracle DB, Informatica, IBM Cognos BI 8



Processes peak daily load of 410 million rows of data



Data from more than 25 sources

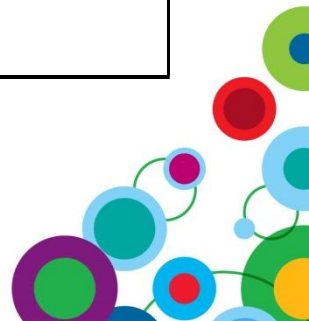


95 cubes built on daily, weekly, bi-weekly or monthly schedule



Data Warehousing/Business Intelligence at Alliant Energy

<u>Business Domain</u>	<u>Analytics</u>
Customer	Customer Participation, Revenue & Usage, and Rebates <i>PowerOut, Electric System Reliability, Outage Response Tracking</i>
Energy Market Operations	Commercial Availability Factor Generation Market
Financials	Asset Management, Demand Side Management Vehicle Fleet Usage & Chargebacks, FPA, Genco, General Ledger, Joint Plant Billing, Project Costing, Tax
Human Resources	Safety, Time Entry, Training
Information Technology	Audits, Network Audits
Supply Chain	Inventory, Logistics and Sourcing
Utility Operations	<i>Construction & Engineering, Gas Inspections & Maintenance Substation Maintenance, Gas & Electric Infrastructure</i>



What was the business problem?



Alliant Energy uses a Distribution Management System to manage outages and restoration to customers.



Alliant Energy was using unsupported version of Distribution Management System and needed to upgrade



However, a key gap in the upgraded system was identified

Delivered functionality no longer included Executive Dashboard



What is the Executive Dashboard?

CommandCentricity Executive Dashboard

Region

Maintenance Zone

All

Operations Office

All

Work Area

All

Summary

Event Feeder

Historical Event

Critical

Life

Key

Customer

Priority

Non Priority

Call

Fuzzy County Total

Create Summary Html File

Historical Region

Outages

Total

12

Customers Out

Total	Critical	Life	Key
289	21	1	0

Region Customers Totals by All

Region	Events	# Out	# Critical	# Life	# Key
BURLINGTON ZONE	3	208	18	0	0
Beaver Dam Zone	1	17	0	0	0
Fond du Lac Zone	1	1	0	0	0
MASON CITY ZONE	1	1	0	0	0
OTTUMWA ZONE	4	60	2	1	0
WASHINGTON ZONE	1	2	1	0	0
Wisconsin Rapids Zone	1	0	0	0	0

Auto Update in 5 mins

08/13/2008 12:30

Automatic



Executive Dashboard Business Requirements



Provide same user interface functionality

- Secure Login

- Auto and Manual Data Refresh

- Data Filtering & Drill Down

- Report Printing & Copy To

- Map View of Outage events



Provide same reporting functionality

- By Regions

- By Events

- By Feeder

- By Customer

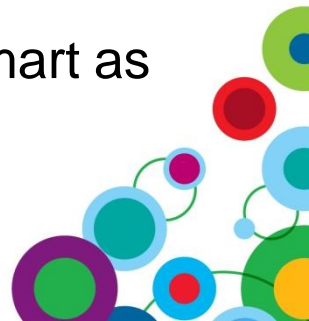
- By Calls

- By County

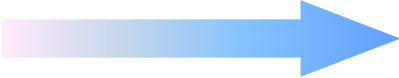





Options for developing Executive Dashboard

- DMS Upgrade team build it using DMS datamart & BI toolset delivered with upgraded system.
- BI team build it using DMS datamart & BI toolset delivered with upgraded system
- BI/DW team build it by creating datamart within the Alliant Energy data warehouse using IBM Cognos 8.x toolset
- BI team build it using IBM Cognos 8.x using DMS datamart as source for data.



Next Steps – Needed to show we could do it

-  to develop application using DMS BI datamart as source
-  to provide required user interface functionality
-  to provide required reporting views of outages
-  to include an Alliant Energy map view of outage events



PowerOUT Architecture

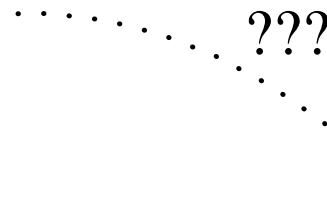
The specifications required interactive Alliant Energy maps... how do we solve this problem?



Alliant Energy maps (ESRI)

DMS BI datamart refreshed every 5 mins from DMS

IBM/Cognos PowerOUT refreshed every 5 mins from DMS BI datamart



How to include interactive Alliant Energy maps?

Researched products based on the requirements to use IBM Cognos and ESRI

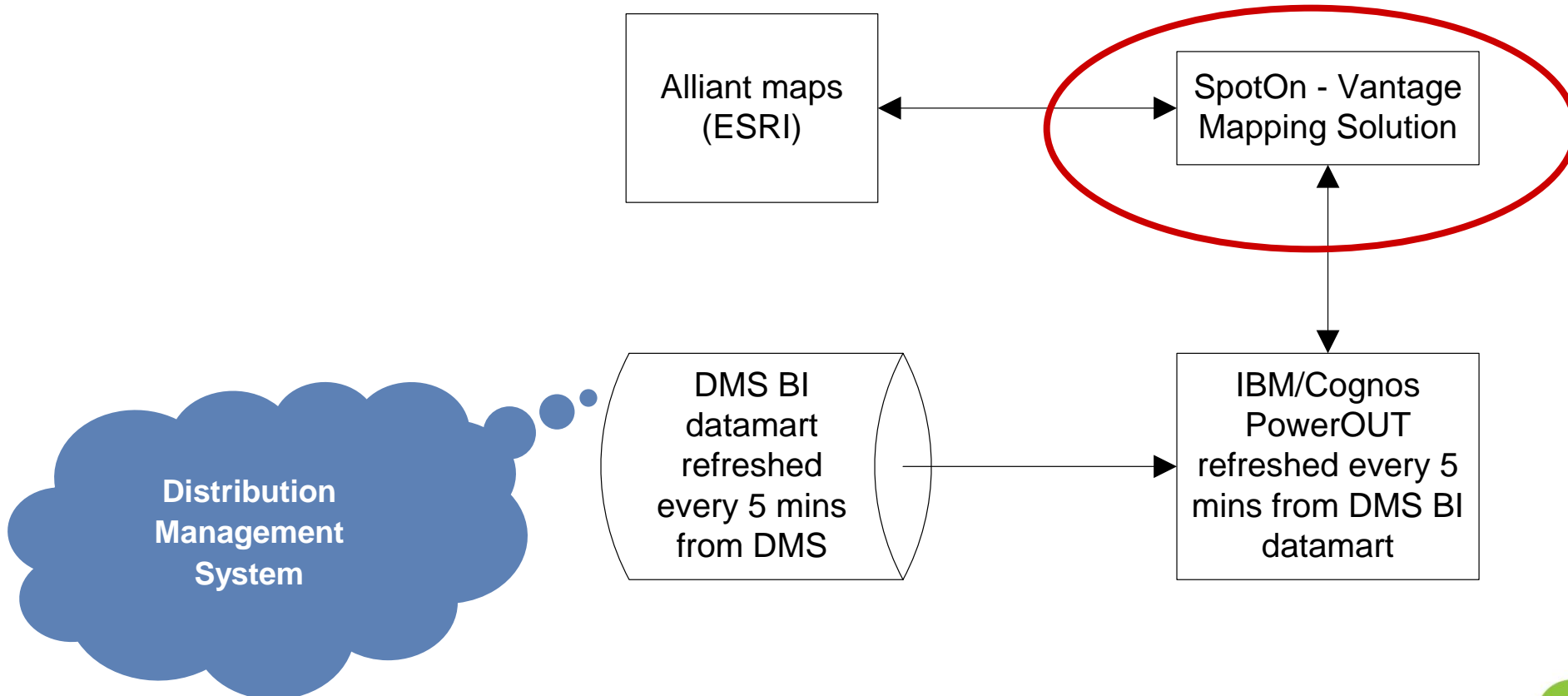
- Cognos Mapping
- Google API
- OpenLayers
- **SpotOn Vantage**

Why SpotOn Vantage?

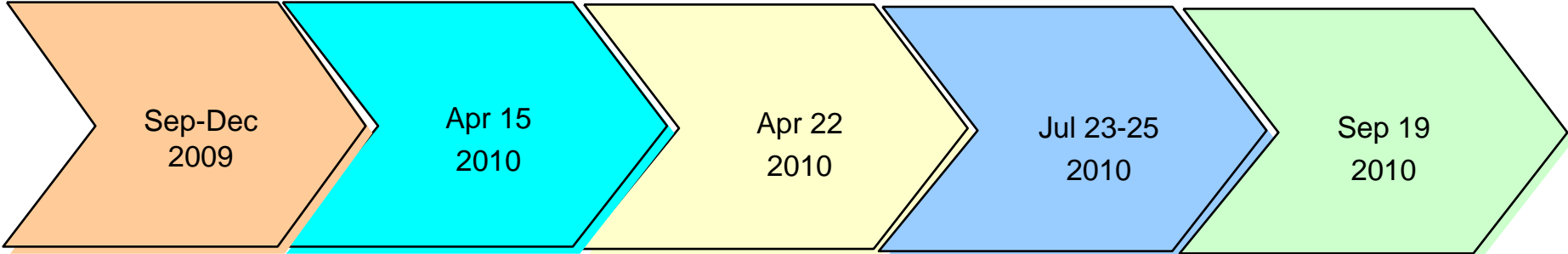
- Partner with IBM Cognos providing mapping solutions using ESRI
- Only solution to provide interactive capabilities with access to ESRI maps



PowerOUT Architecture



Timeline for Developing PowerOUT



IBM Cognos 8.4
PROD environment
Included:
•Outage Summary
•Events & Circuits
•Customer & Callers
•County Portal
Maps on HOLD

1st release of
PowerOUT in
production (without
maps).

*Implemented with
DMS Upgrade.

2nd release of
PowerOUT including
Alliant Energy Maps
using SpotOn
Vantage was
installed.

3rd release of
PowerOUT with 4
enhancements
including an
upgraded version of
SpotOn Vantage.

*Implemented with
IBM Cognos 8.4.1
Upgrade

4th release of
PowerOUT including
16 enhancements to
application.





PowerOUT Demo

DEMO of Alliant Energy's
PowerOUT application



Who uses PowerOUT?

Currently 550 users of the PowerOUT application

Mission Critical users

- Field Operations Managers
- Distribution Engineers
- Corporate Communications
- Call Centers
- DDC Management Teams
- DDC Application Support Employees

Other users

- Executives
- Account Managers
- Substation Managers
- Asset Care Managers
- Field Dispatchers



How is PowerOUT used by the Call Centers?



Provides customers with details of power outages that may be impacting them



Provides call centre with specifics of electric outage situations impacting both AE and our customers



Provides the call center management team with a big picture of electric outage status

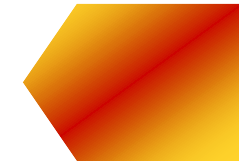


Why is PowerOUT a critical 24x7 application?

Only application providing Field Operation Managers and Executives near real time information on power outages when they need it 24/7



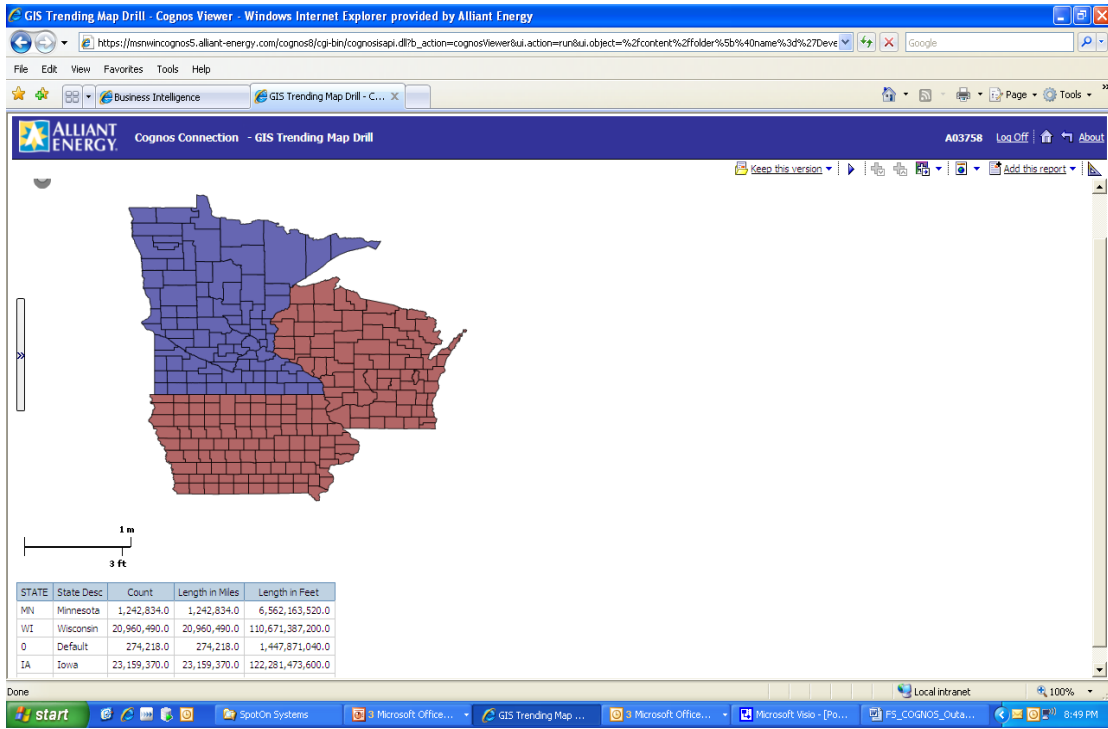
Provides sufficient outage information to allow safe & efficient working of our dispatchers



Used out in non business hours during major weather events and outages



'Next steps' for Alliant Energy using SpotOn Vantage



Analytics for Energy Delivery

Gas System Measures:
 Length in feet
 Length in miles
 Age



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