



Managing metered data from multiple data sources

Presented by **Frank Maio**

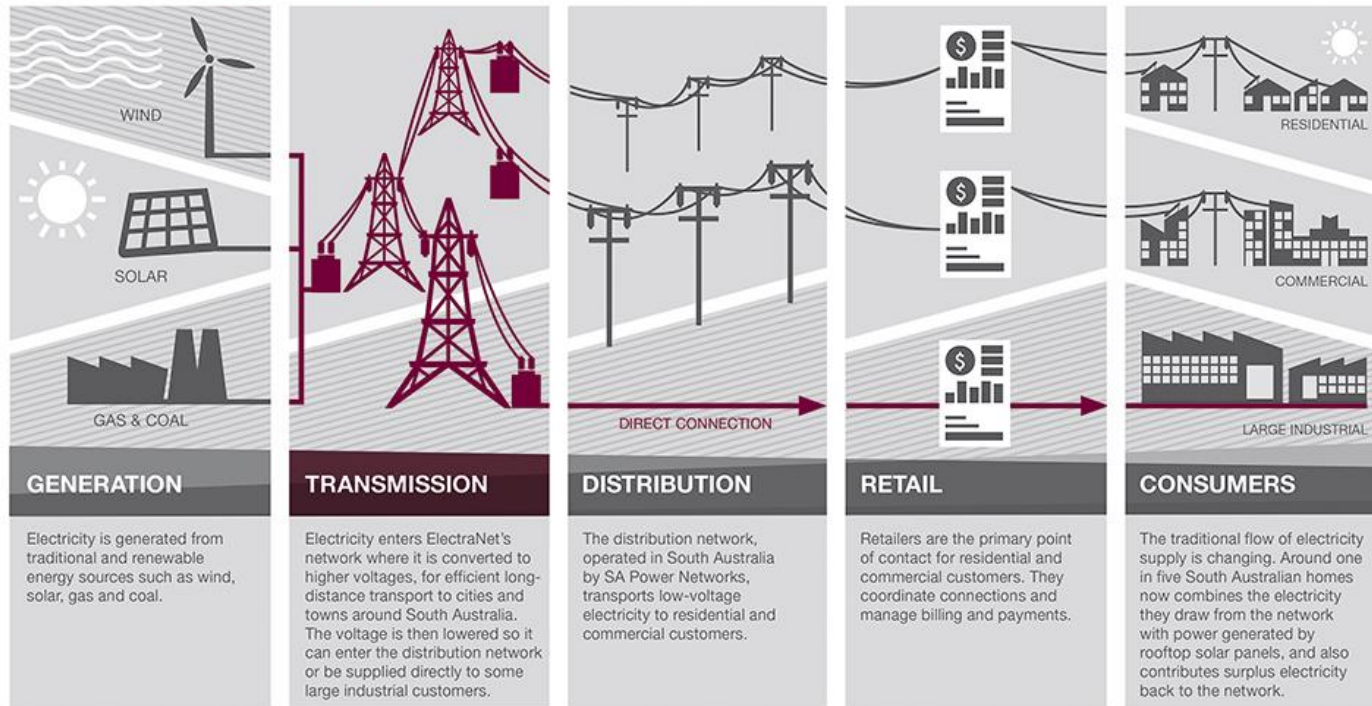


Agenda

- Who are ElectraNet?
- Where did all the data come from?
- Our Asset Data Map
- Consolidation versus Integration
- Integration standards
- Conclusion

Who are ElectraNet?

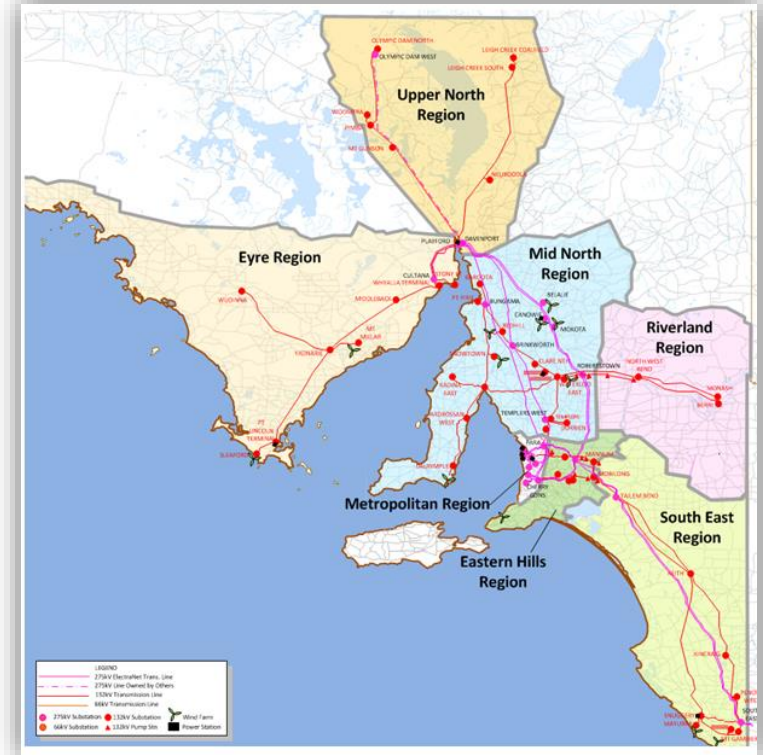
How electricity gets to you



Role of Electricity Transmission

ElectraNet's transmission network is the 'backbone' of South Australia's power system:

- Connecting power stations to major load centres
- Connecting regions of the National Electricity Market via state interconnectors
- Facilitating competition in the energy market
- Reducing the amount of spare generation capacity that must be provided to ensure reliable supply
- Transmission costs account for less than 10% of the end user electricity bill



Metered Data Sources

1990

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1 36301122334,Message text 1,4/29/2010 12:30
2 36301122335,Message text 2,4/30/2010 12:30
3 36301122336,Message text 3,5/1/2010 12:30
4 36301122337,Message text 4,5/2/2010 12:30
5 36301122338,Message text 5,5/3/2010 12:30
6 36301122339,Message text 6,5/4/2010 12:30
7 36301122340,Message text 7,5/5/2010 12:30
8 36301122341,Message text 8,5/6/2010 12:30
9 36301122342,Message text 9,5/7/2010 12:30
10 36301122343,Message text 10,5/8/2010 12:30
11 36301122344,Message text 11,5/9/2010 12:30
12 36301122345,Message text 12,5/10/2010 12:30
13 36301122346,Message text 13,5/11/2010 12:30
14 36301122347,Message text 14,5/12/2010 12:30
15 36301122348,Message text 15,5/13/2010 12:30
16 36301122349,Message text 16,5/14/2010 12:30
17 36301122350,Message text 17,5/15/2010 12:30
18 36301122351,Message text 18,5/16/2010 12:30
19 36301122352,Message text 19,5/17/2010 12:30
20 36301122353,Message text 20,5/18/2010 12:30
```



Metered Data Sources

1995



Metered Data Sources

1998

NEMMCO



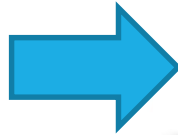
Metered Data Sources

2003

NEMMCO



Australian Government
Bureau of Meteorology



Metered Data Sources



Metered Data Sources



Metered Data Sources

2011



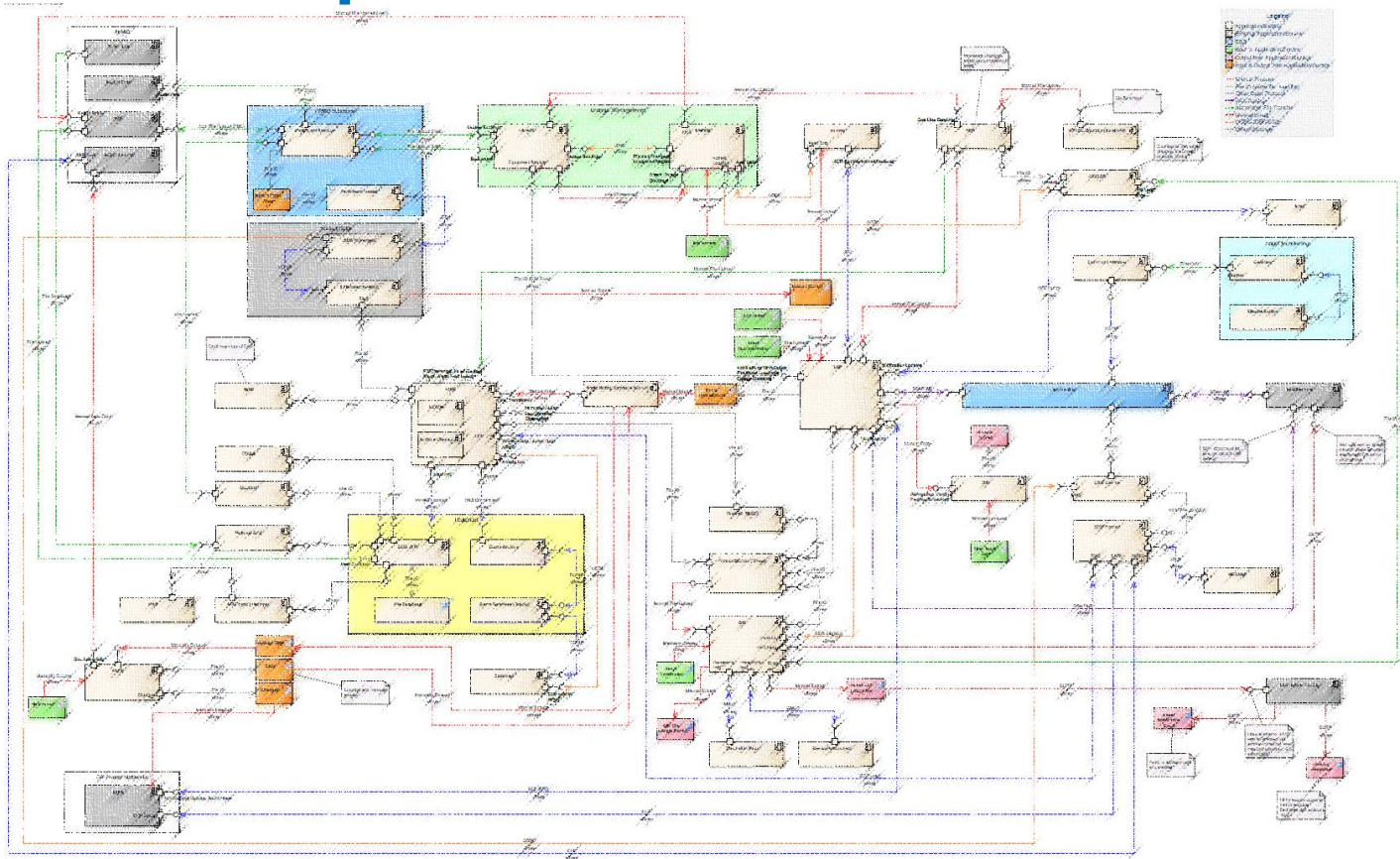
Australian Government
Bureau of Meteorology



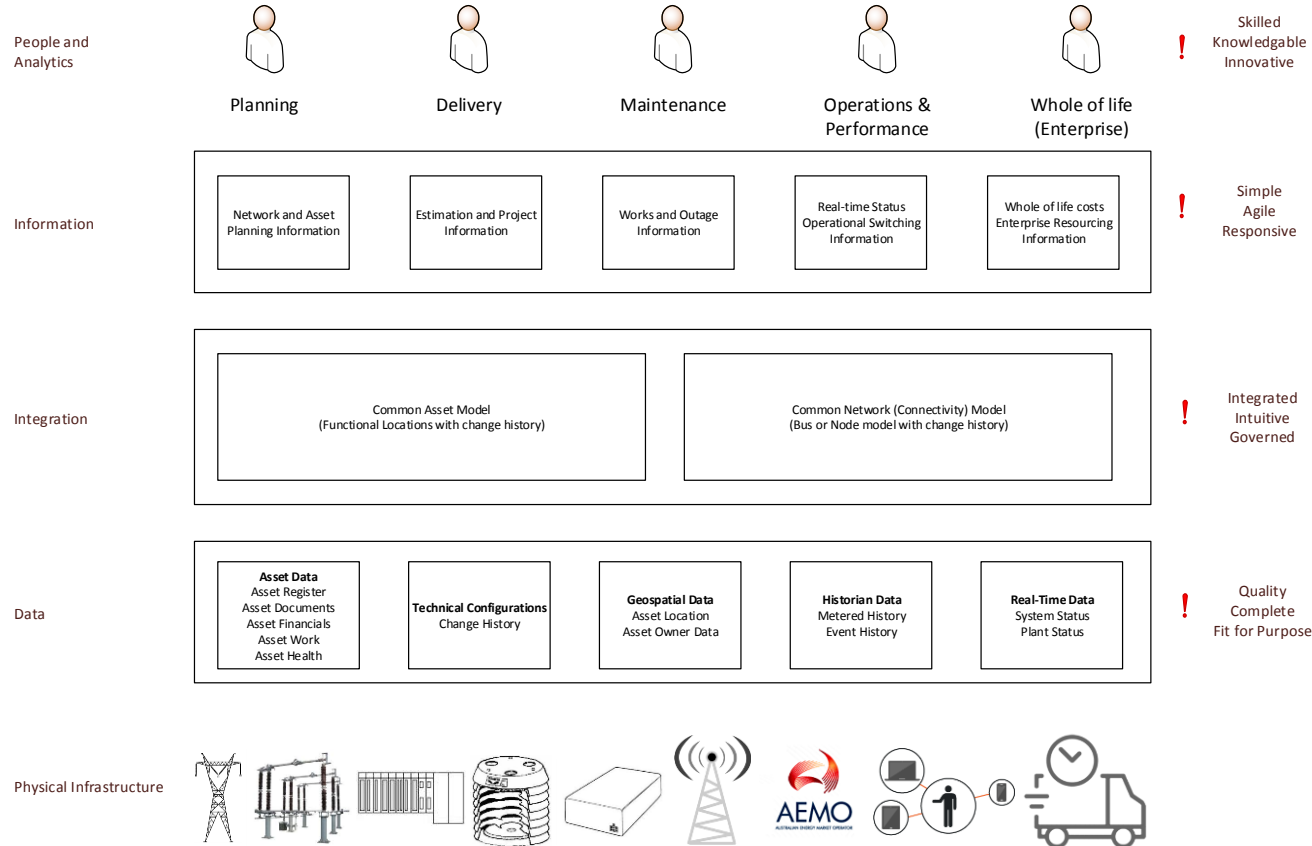
Why is integration an issue?

- Vendor systems can have different constraints on naming
- Some vendor systems allocate asset names dynamically
- Some vendor systems build asset names based on the hierarchy of how assets are interconnected
- Business units can call asset differently – different business perspective

Asset Data Map



Improving Information insights





The Plan

Why do we need a plan?

- Many asset registers that have been built in isolation
- Some systems are difficult to upgrade and integrate
- Configuration and support of systems is complicated
- Consolidation and Integration enables commonly shared decision making and helps integrate siloed thinking

The aim is to make the best decisions regarding our assets as fast as possible

What Needs to Change?

- Create an integrated information environment
- Focus on information quality
- Optimise business process
- Enable intelligent decision making

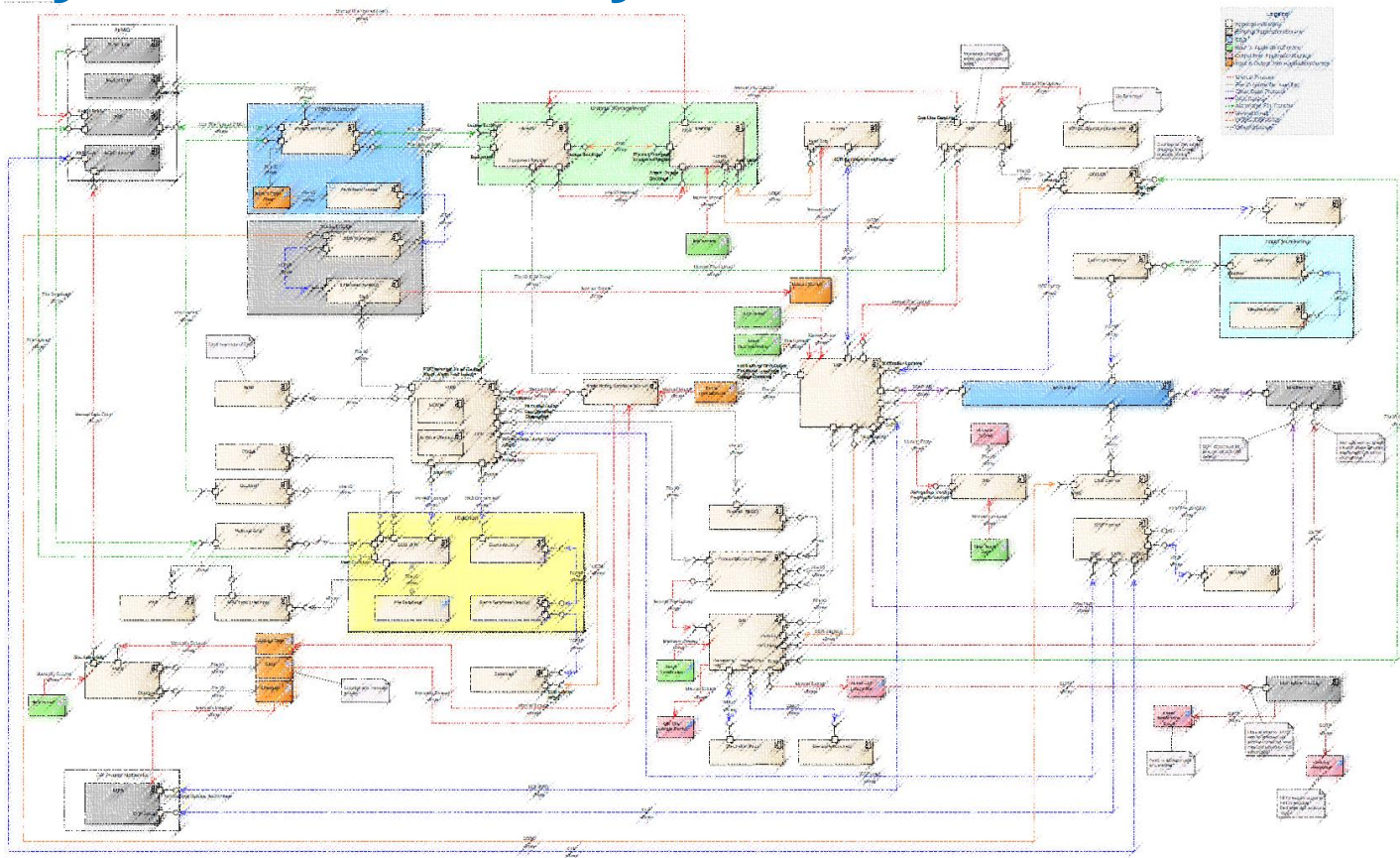
Create an Integrated information environment

- Identify all Asset Lifecycle data/information utilised within the organisation
- Identify the reason the data/information exists
- Understand how the data/information is used
- Understand how the data is managed

What Needs to Change?

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Identify all Asset Lifecycle information



The Common Information Model (CIM)

- An open standard (IEC61970/61968);
- It defines how managed elements in a utility are represented
- It provides a common set of objects and relationships between them

What Needs to Change?

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Why CIM?

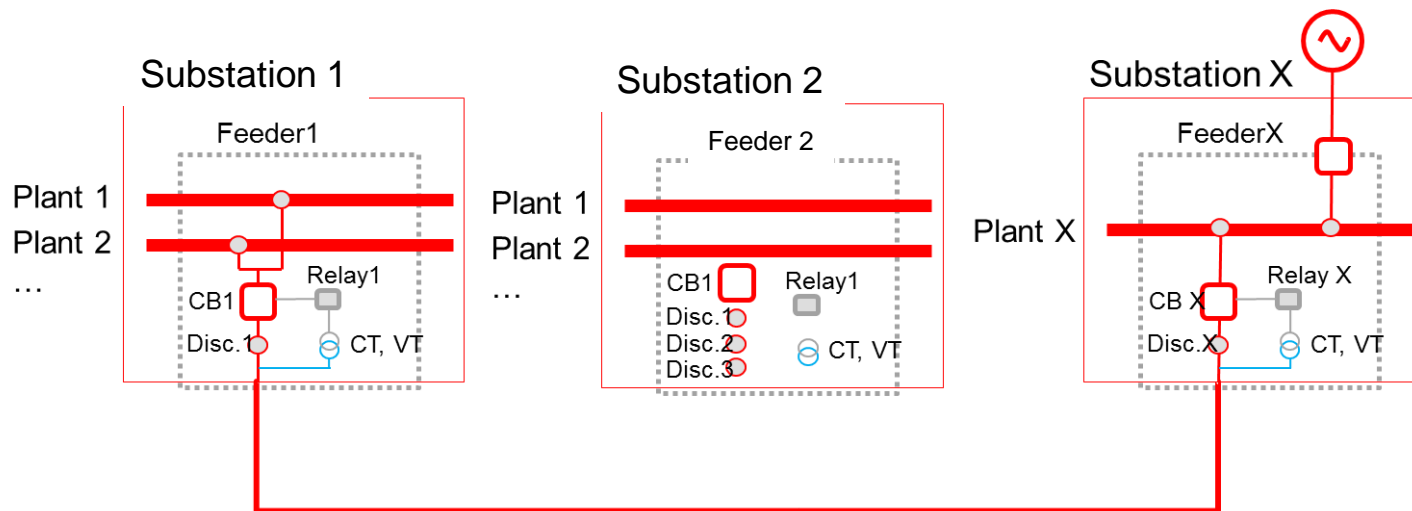
- Vendors are supporting CIM
- CIM can support planning, operations and asset management
- Ability to model detailed assets information such as line segments and outage elements
- A network model can be validated based on connectivity
- CIM has already been validated by numerous other utilities and vendors
- It can be easily adapted to work within a services frameworks

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Physical versus Electrical representation

CIM enables assets and network connectivity

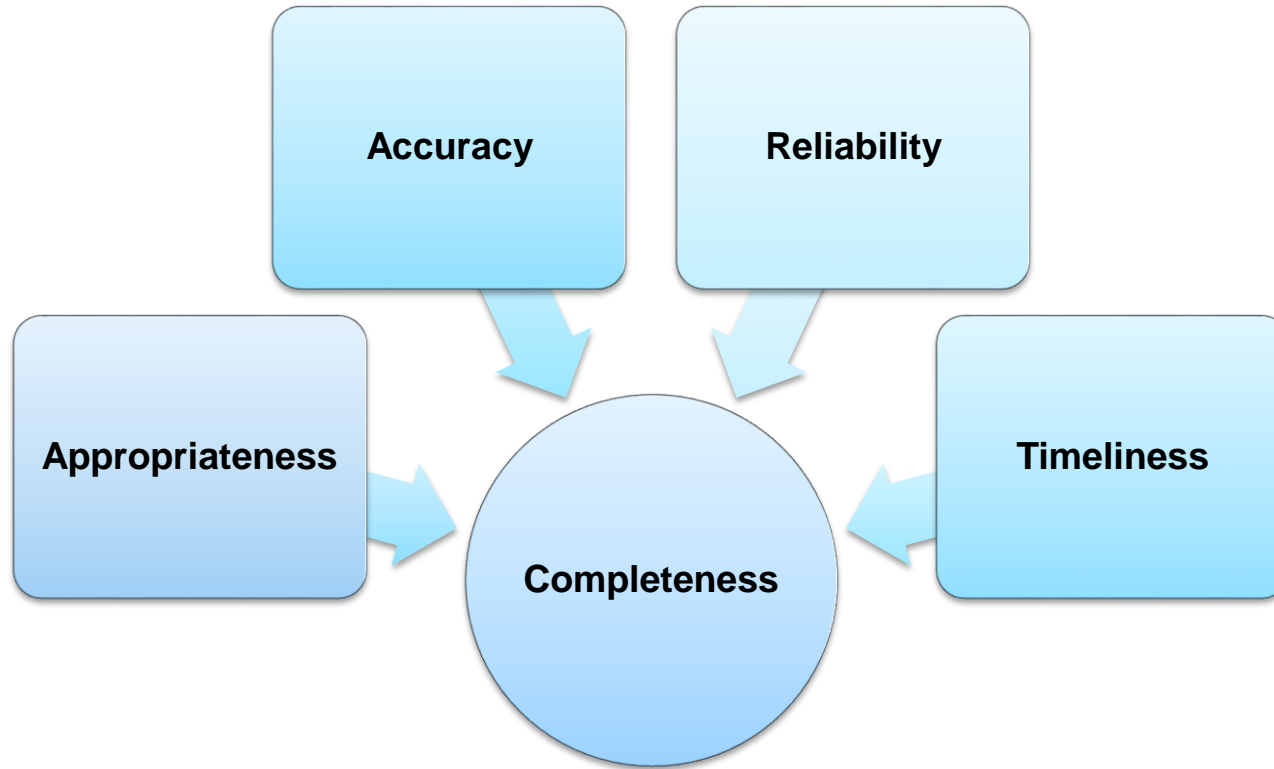


So just use CIM?

- It's a huge data model
- Standards can be too big to swallow
- Its hard to understand a model until you start using it

Only use standards for integration if systems are already mature

Focus on Information Quality



What Needs to Change?

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Applications need to optimise business processes

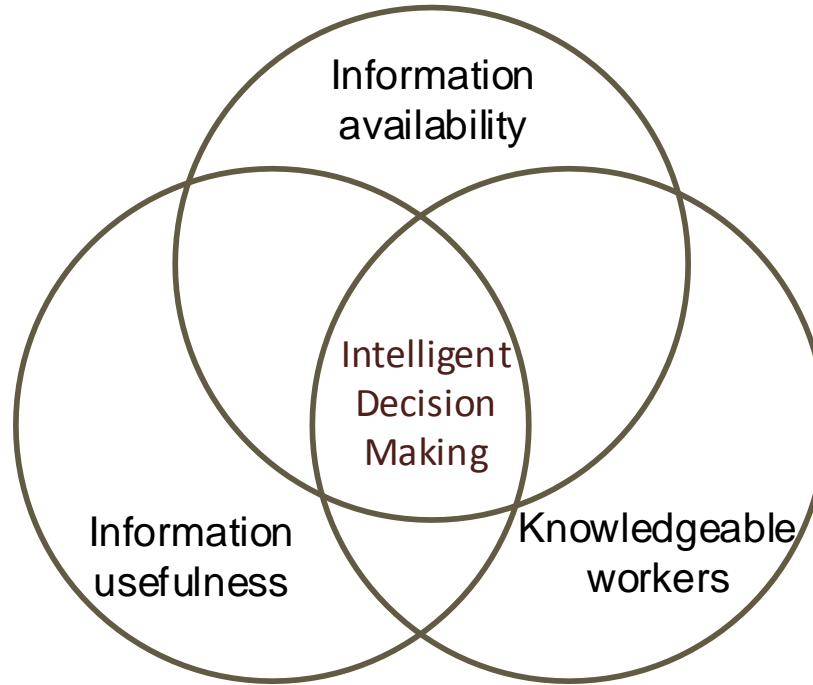
“Civilization advances by extending the number of important operations which we can perform without thinking about them.

* Whitehead, AN, 1911, ” Alfred North Whitehead” An Introduction to Mathematics

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Enable Intelligent Decision Making

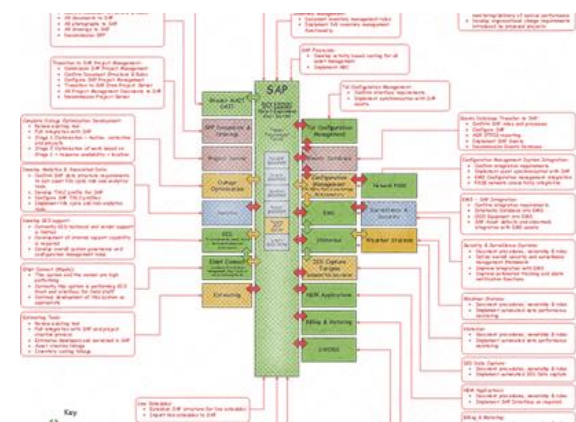


What Needs to Change?

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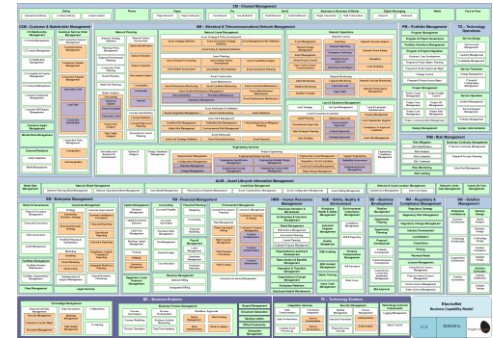
Two approaches to develop the roadmap



Plan on a Page

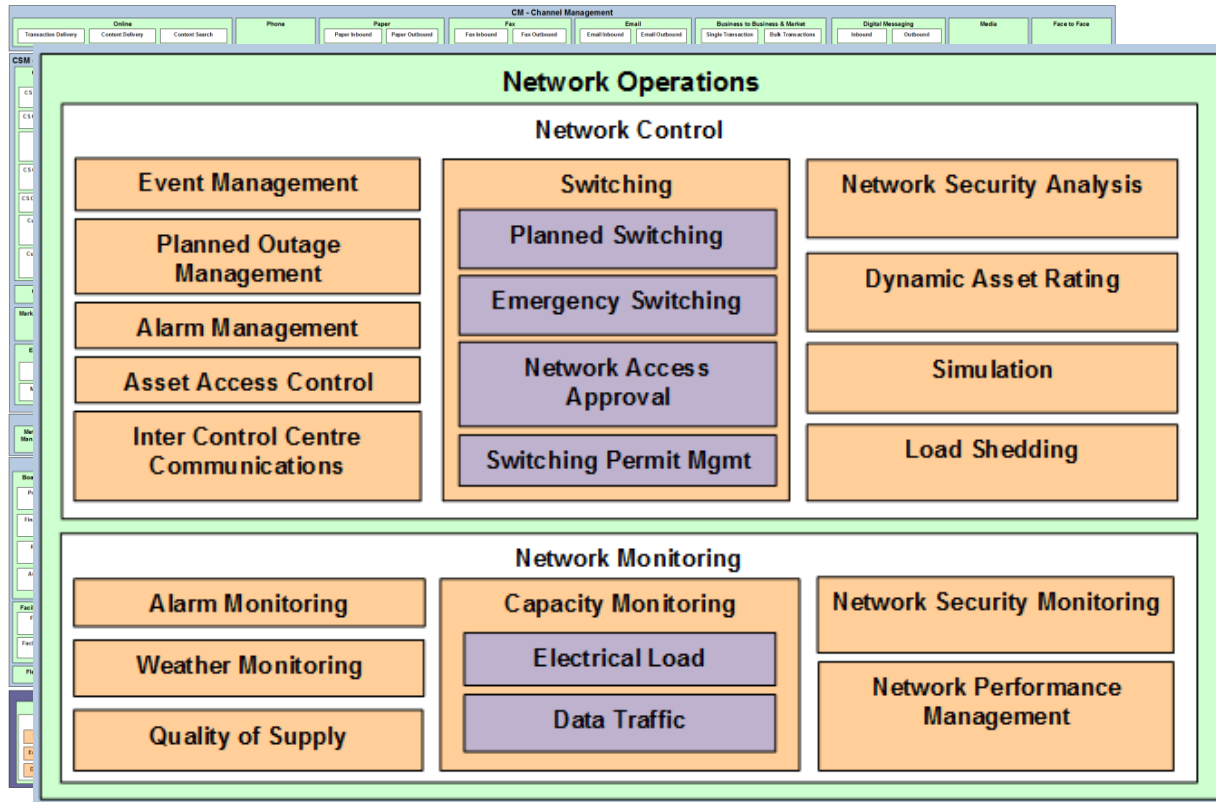
Operational Technology (OT) Improvement Projects



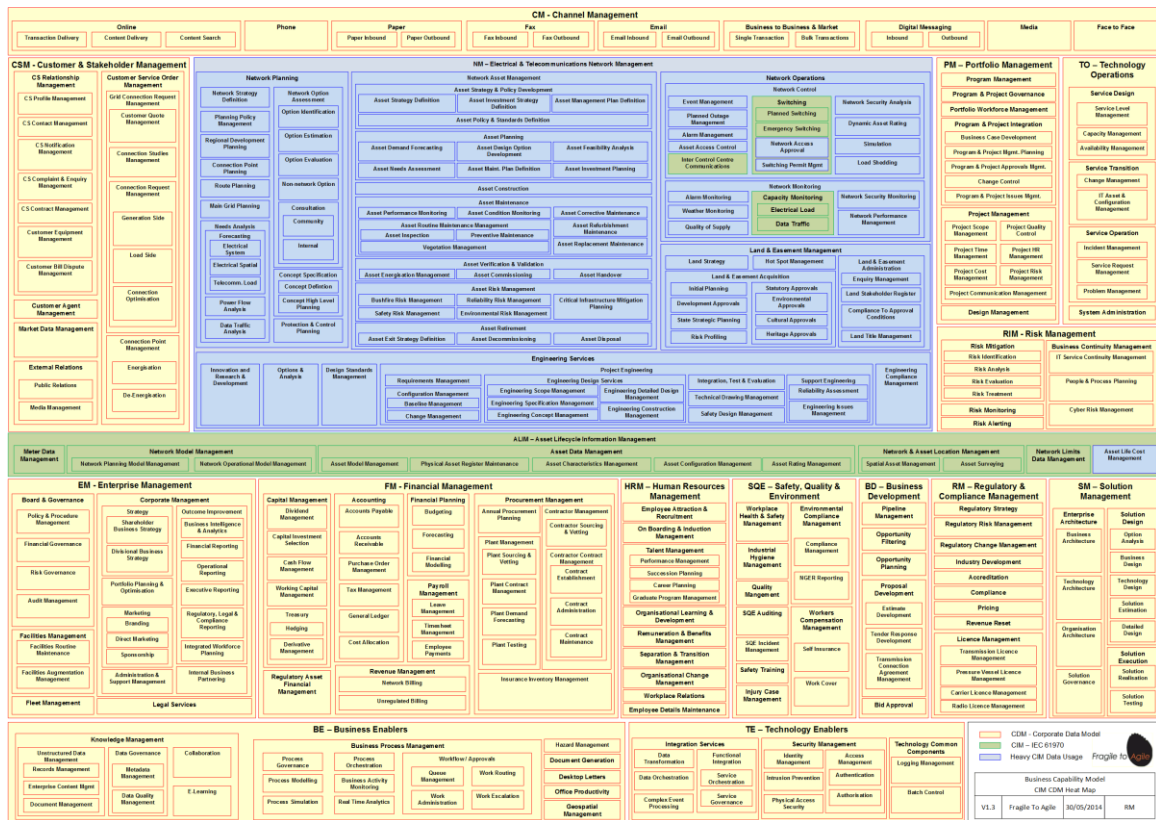


Business Capability Model

Business Capability Model



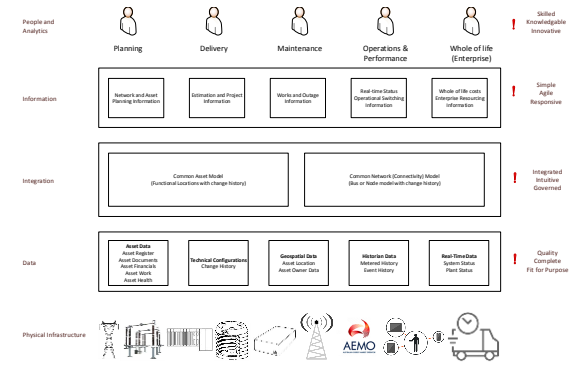
CIM Heat Map overlay on the BCM



Summary

Systems that enable intelligent decisions across the asset lifecycle

- Keep the plan simple
- Foster feedback and opportunities to test the plan



BUSINESS CHALLENGES

- Teams work in isolation, how can we get an integrated view?
- Data Configuration Management is getting harder.
- How can we make better decisions?

SOLUTION

- Find a common vision that people can understand
- Show them the benefits of integration
- Consolidate and integrate data

RESULTS AND BENEFITS

- People are easier to engage when they understand the plan
- Focus on improving data management
- Give people access, let them extract the insights to make better decision

Contact Information

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ElectraNet

Questions

Please wait for the
microphone before asking
your questions



State your
name & company

Please don't forget to...

Complete the Survey
for this session



The **Power of Data**

DECISION READY IN REAL-TIME

Evaluation Form (Seminar Location - Date)

Name: _____ Company: _____

Email: _____

Quality and content of the presentations

Poor Good Excellent N/A

Welcome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Journey To Real-Time Operational Intelligence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Power of Connection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tank Level Management System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the PI System to Aid in Troubleshooting Operational Aspects of Oil and Gas Well Drilling and Completion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unleash your Infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on the Spot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wrap-up/Seminar Conclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Quality and organization of the seminar

Choice of date	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time allowed for lunch/breaks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choice of presentations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Days and time allowed for the presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



감사합니다

谢谢

Danke

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado

PI makes data collection easy creating the common language can be the challenge.