Managing metered data from multiple data sources

Presented by **Frank Maio**

Principal Planner – IT Operations Systems

ElectraNet

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Agenda

- About ElectraNet
- Where did all the data come from?
- Integrating Multiple Data Sources
- Our Approach
- The User Interface
- Early Considerations

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About ElectraNet

- Principal Transmission Network Service Provider (TNSP) for South Australia
- Owns and manages the SA regulated high-voltage electricity transmission network, and operates in Australia's National Electricity Market (NEM)
- Specialist in transmission of electricity over long distances and to remote areas
- Asset value ~$2.5bn
- Turnover >$350m pa
- Employs ~ 280
- >5,600 route kilometres of transmission line
- 28 route kilometres of underground cable
- 89 high-voltage substations
- Centralised monitoring, controlling and switching facility

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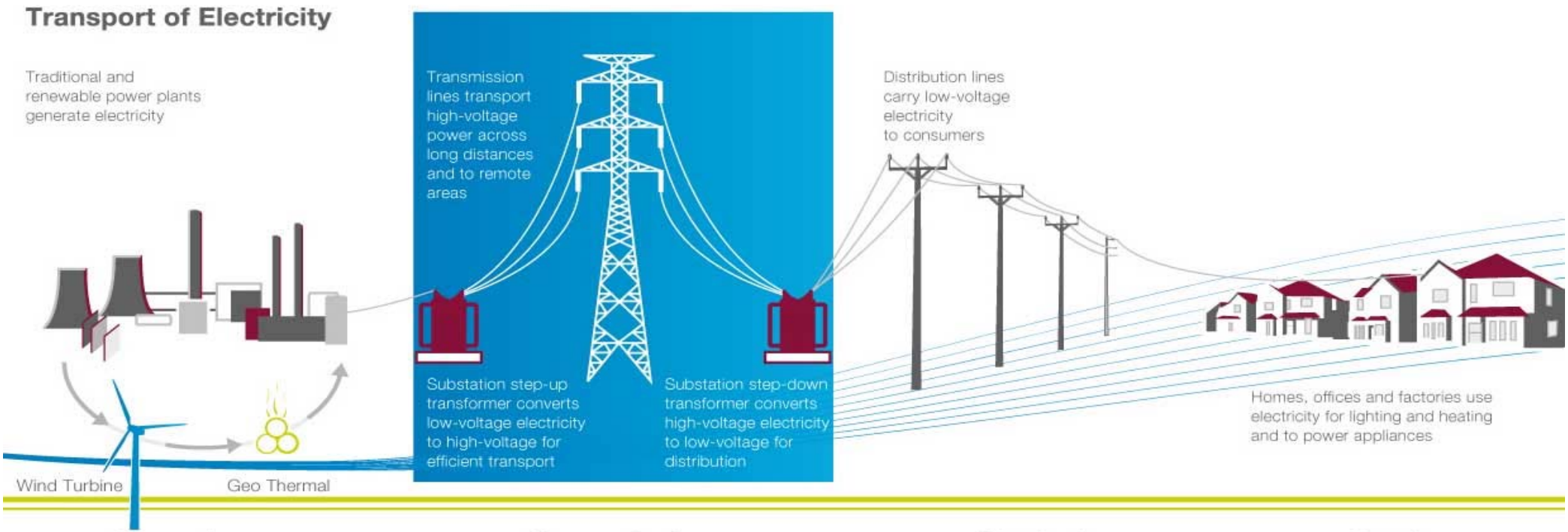
ElectraNet's Transmission Network…



Generation	**Transmission**	Distribution	Retail
eg. Torrens Island Power Station	**ElectraNet**	SA Power Networks	eg. Origin Energy AGL

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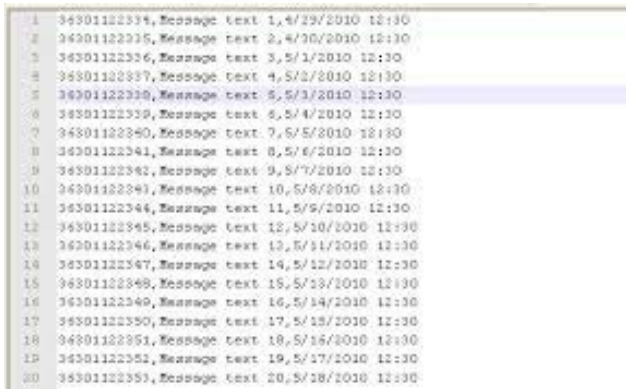
Metered Data Sources

1990



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```

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Metered Data Sources

1995

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1998

NEMMCO

ElectraNet

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2003

NEMMCO

Australian Government
Bureau of Meteorology

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2009

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Australian Government
Bureau of Meteorology

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Metered Data Sources

2011

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Australian Government
Bureau of Meteorology

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Managing Assets from multiple sources

- Vendor systems may 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
- Some business units call an asset differently to another business unit

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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

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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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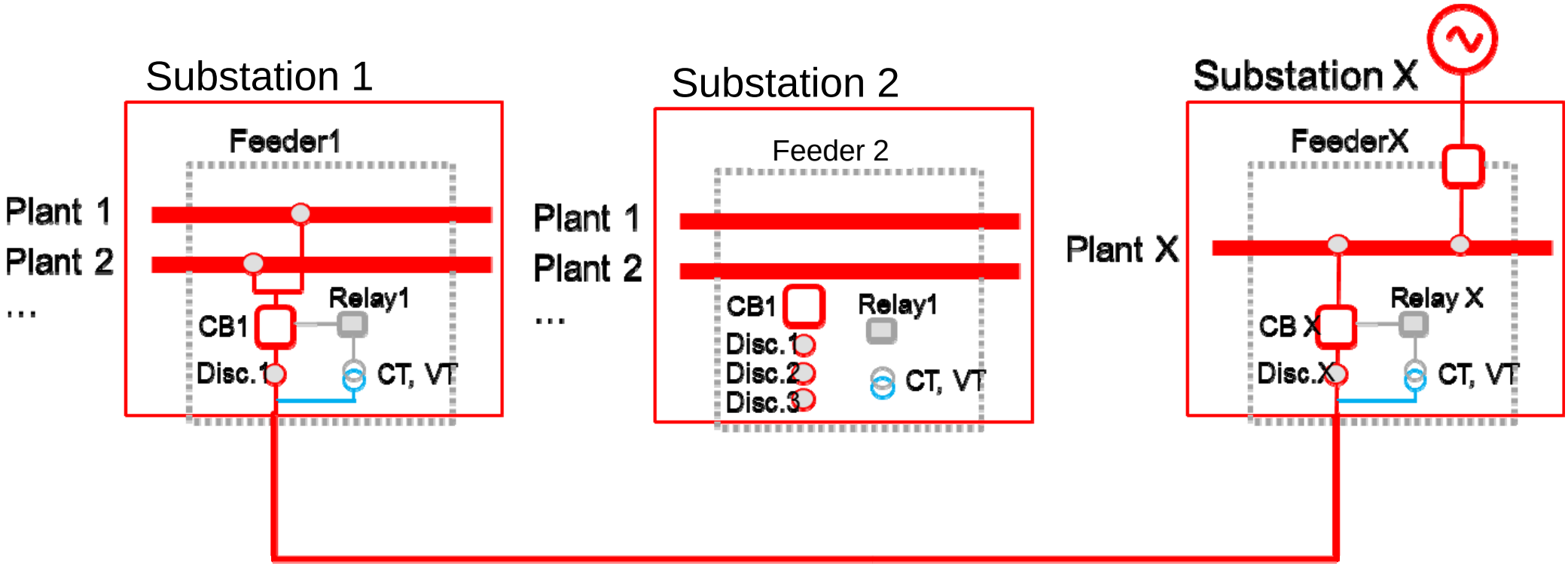
Physical versus Electrical representation

CIM enables assets and network connectivity



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So just use CIM within AF?

- It’s a huge data model
- Standards can be too big to chew

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Our Approach

1. Develop a Business Capability Model (BCM)
2. Identify the data model across the BCM
3. Identify where data models can be aligned to CIM

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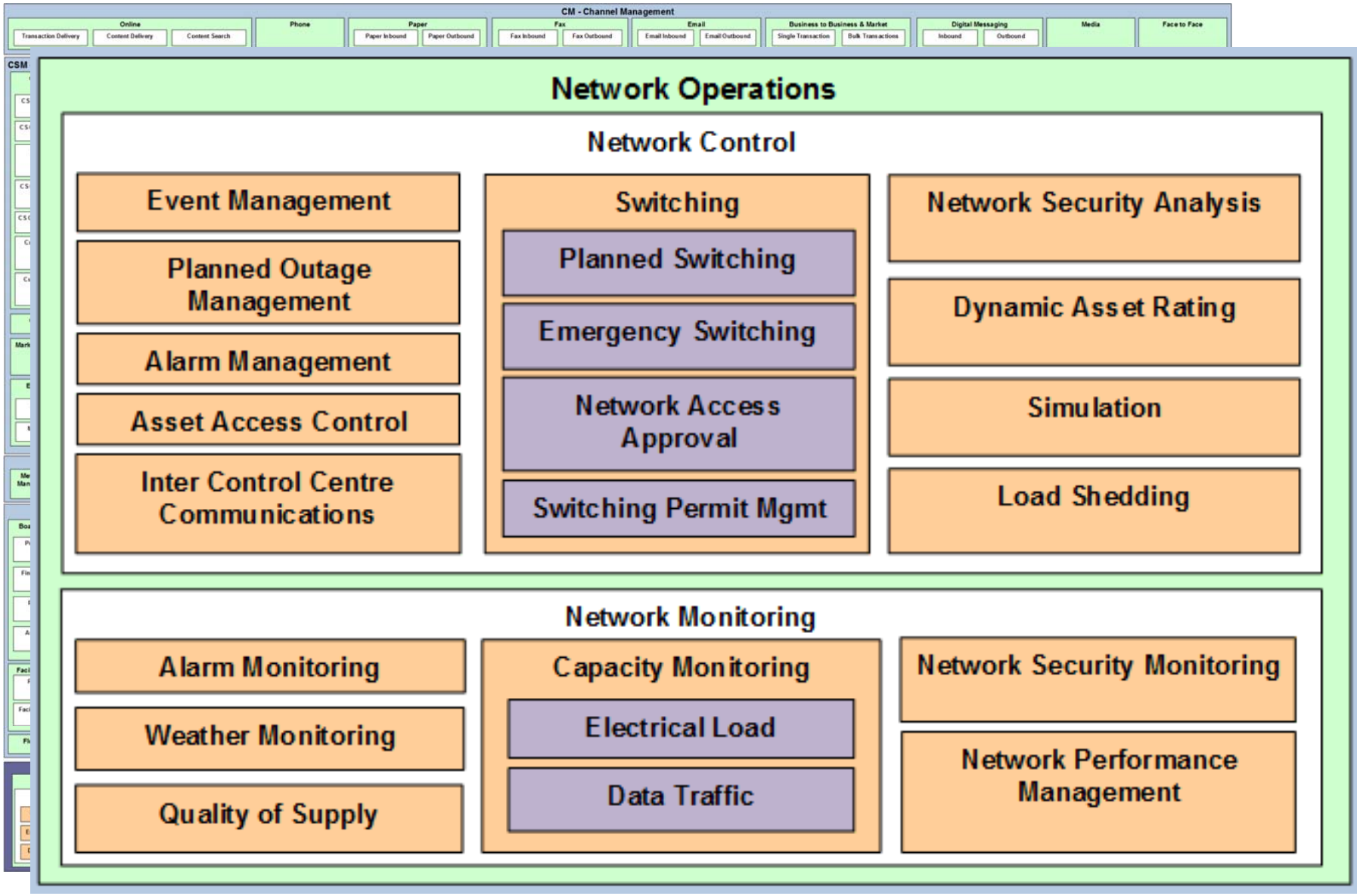
Business Capability Model



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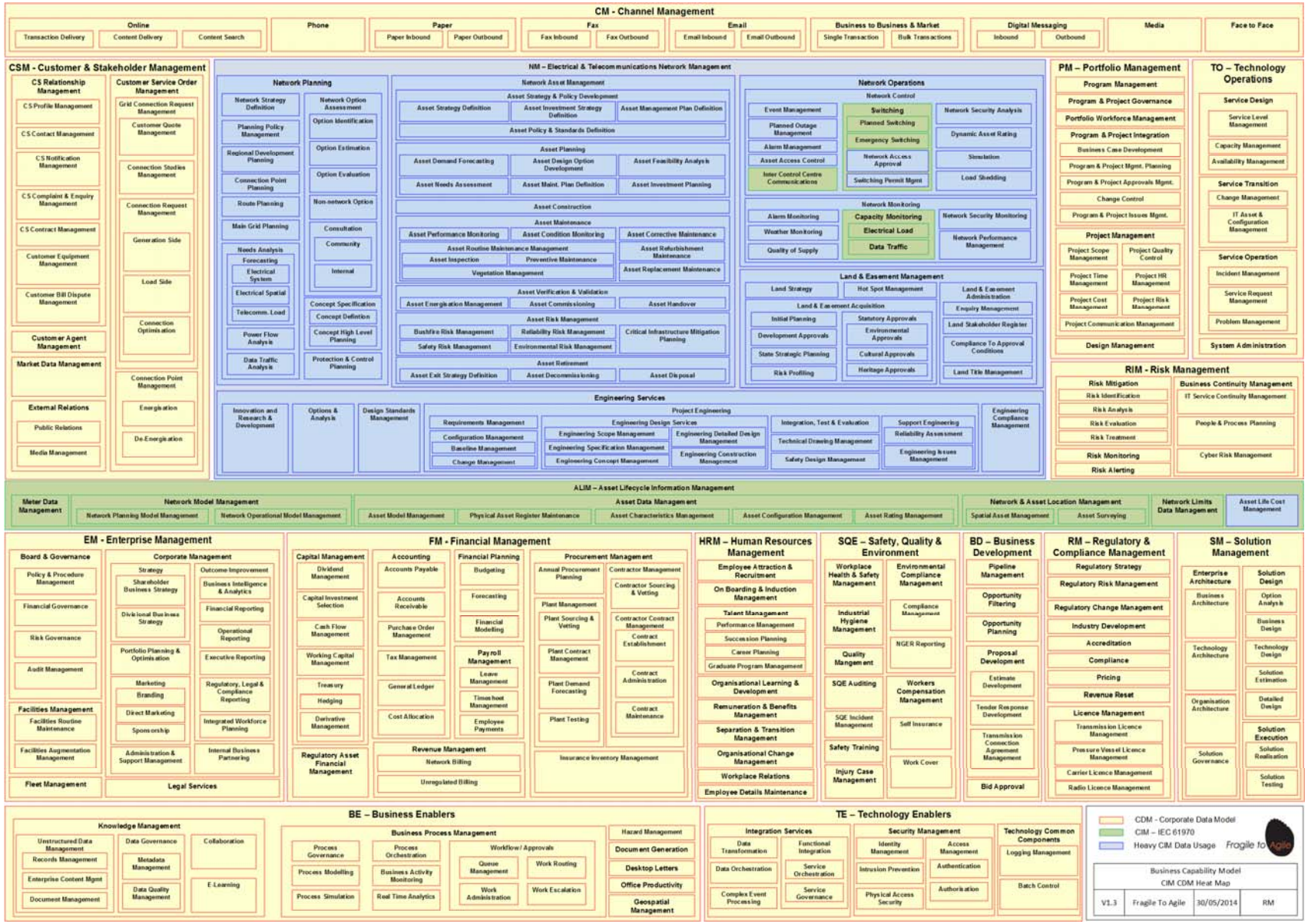
CIM Heat Map overlay on the BCM



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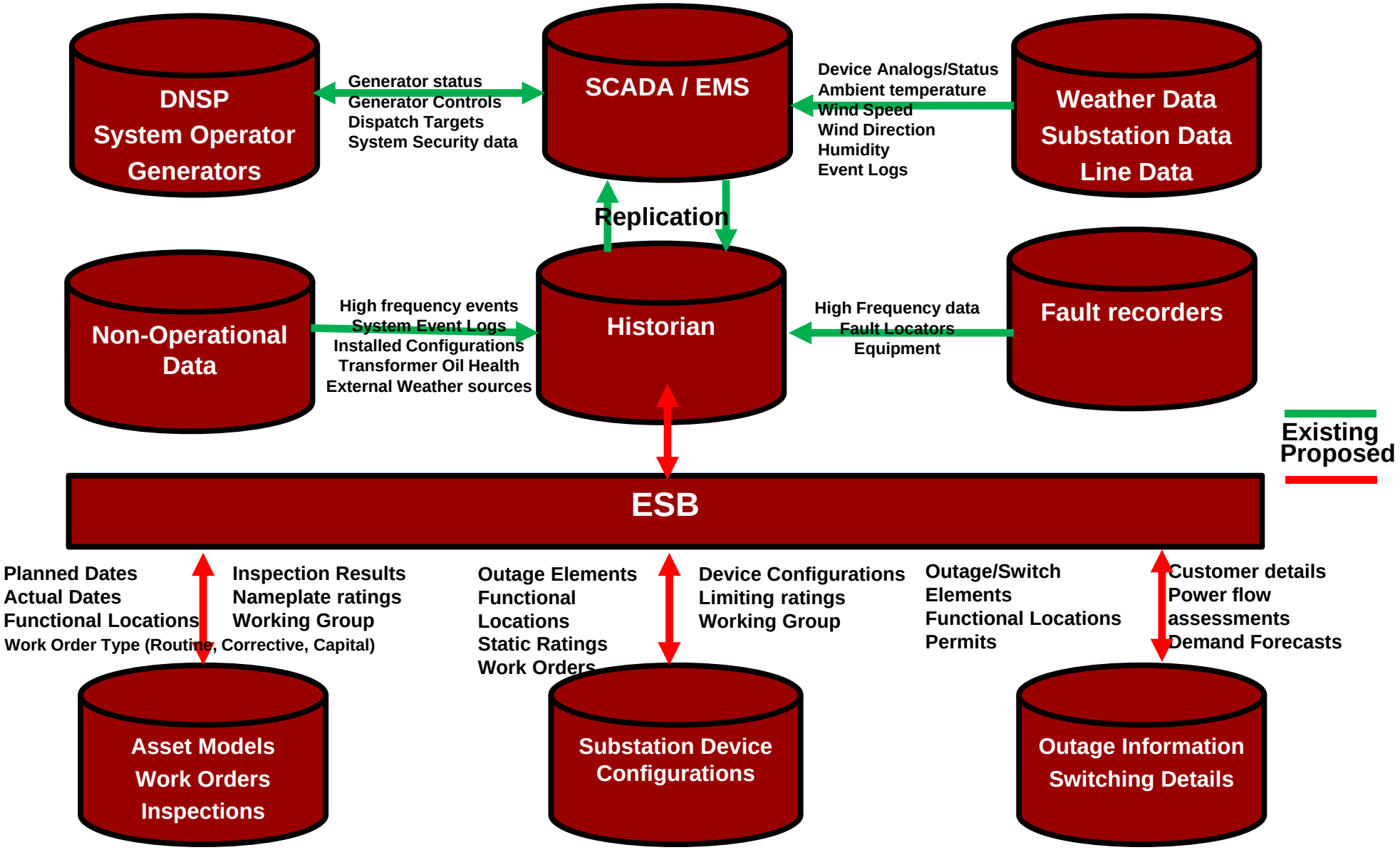
Systems Data Flow Map



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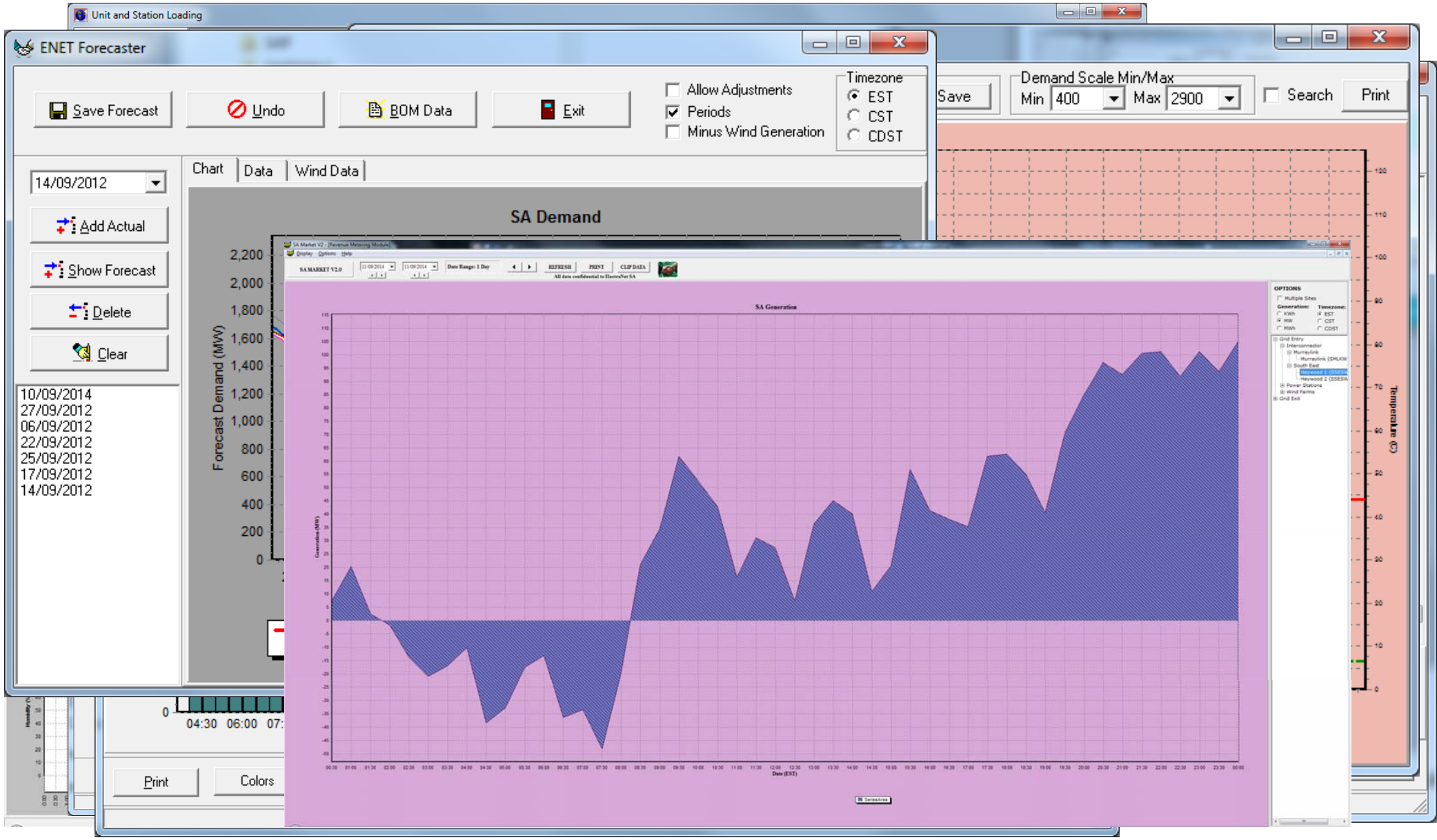
The User Interface - current



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The User Interface - requirements

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Early Considerations

- Executive buy-in
- Master Data Management (Ownership/Stewardship)
- Information Management Policies and Procedures
- Vendor Roadmaps
- Integration capability of systems
- High Availability Requirements

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