WAMRP – IT FORUM ARCHITECTURE OVERVIEW

26 October 2016

PRESENTED BY PHIL HAYES

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

MARKET SYSTEMS – INTRODUCTION

- AEMO has been requested to support the implementation of market reforms as an outcome of the Electricity Market Review (EMR)

- AEMO's proposed approach is to leverage existing expertise and market systems currently deployed to the NEM to deliver on requirements for WA

- Leveraging AEMO's market systems supports:
  o Reduced implementation and operation cost
  o Lower risk by using known solutions
  o Reduce barriers to entry by harmonising interfaces to Australian energy markets

- A key principal in our project decision framework is to deliver on WA requirements in the following prioritised approaches
  1. Consolidation of NEM and WA systems into a single solution
  2. Configuration of NEM system for WA
  3. Customisation of NEM system for WA

  This precedence of approaches ensure our decisions are consistent with the over-arching value proposition and managing delivery risk

MARKET SYSTEMS ACCESS
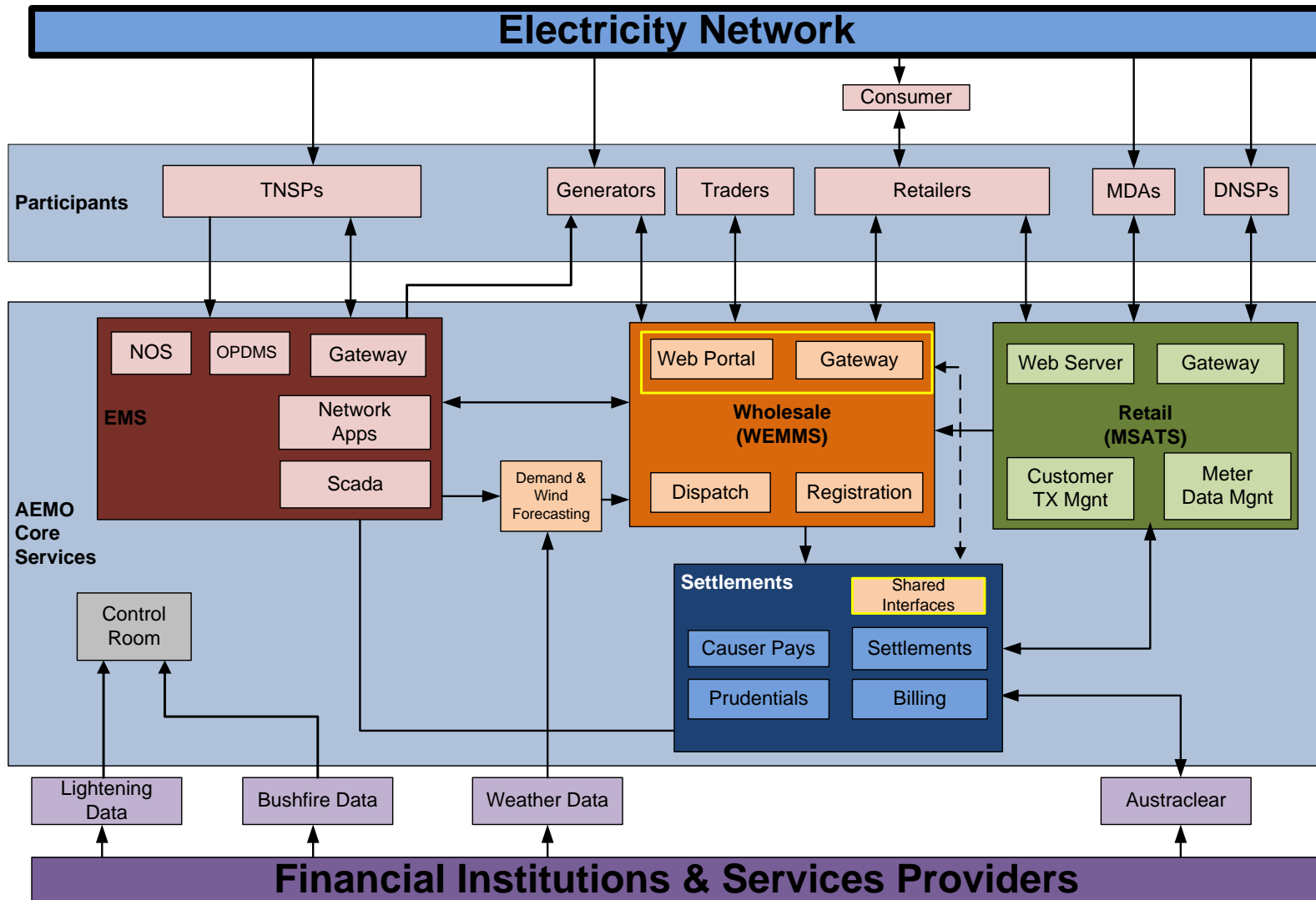
- Any access to AEMO's market systems requires a data network connection to MarketNet
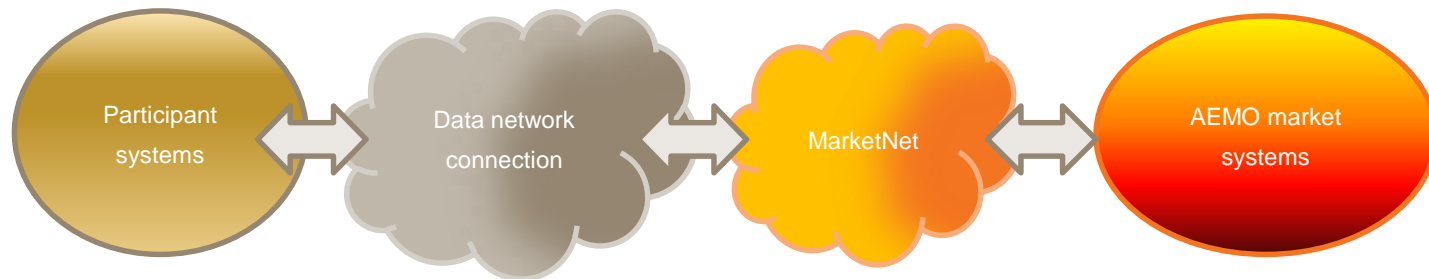
- AEMO provides two types of connection options:
  - A permanent continuous connection, available as either a dedicated link or via VPN
  - A variable connection, intermittently connected for short durations. For security reasons, the connection is dropped if there is no activity for 30 minutes.

- Further reading: Guide to Information Systems v2.03

MARKET SYSTEMS – POWER SYSTEMS

- EMS / SCADA system – supporting the core functions of the AEMO control room - grid management and market dispatch.

- Network Outage Scheduler – interface by which generator and transmission equipment outages are applied for and approved
  - Accessed over MarketNet
  - Web browser interfaces
  - Batch interface via electricity B2B gateway (aseXML)
  - Further reading: Network Data

- Operations and Planning Data Management System (OPDMS) – central store of plant performance and modelling data.
  - Available to TNSP's only
  - Accessed over MarketNet
  - Requires client software provided by AEMO
  - Further reading: Modelling requirements

MARKET SYSTEMS – WHOLESALE

- Generator offers, network constraints, co-optimised ancillary services and security constrained dispatch.
  Further reading: Dispatch process documentation
  (not all elements relevant to WA)

- A clone of the NEM systems will be stood up for WA with limited software customisation
  - Accessed over MarketNet
  - Web browser interfaces, integrated into single wholesale/settlement access portal
  - Batch interface via FTP, and a managed data delivery service for publishing market data to each registered participant.
  - Business SLA's equivalent to the NEM system
  - Further reading, market inputs:
    - MNSP/FCAS Bid file
    - AS Re-Offer Bid Format and Validation v1.02
  - Further reading, market data publication:
    - Concise Guide to Data Interchange
    - EMMS Data Interchange Guide

MARKET SYSTEMS – SETTLEMENTS

- Covering Settlements, Bill and Prudential Management.
- A clone of the NEM systems will be stood up for WA with limited software customisation
  - o Accessed over MarketNet
  - o Web browser interfaces, integrated into single wholesale/settlement access portal
  - o Batch interface via FTP, and a managed data delivery service for publishing market data to each registered participant.
  - o Business SLA's equivalent to the NEM system
  - o Further reading relating to settlement data publication:
    - ➢ Concise Guide to Data Interchange
    - ➢ EMMS Data Interchange Guide

MARKET SYSTEMS – RETAIL

- Market Settlements and Transfer Solution (MSATS), being the centralised store of NMI standing data and receives meter data from MDP's.
  Further reading: MSATS Documentation
    (noting these are the present east coast procedures)

- WEM will be added as a new jurisdiction in the existing MSATS solution servicing the NEM
  - o Accessed over MarketNet
  - o Web browser interfaces.
    Further reading: Guide_to_MSATS_Web_Portal
  - o Batch interface via aseXML over FTP
    Some limited web services for MSATS business functions
    New interfaces being developed to support Metering Competition ("Shared Market Protocol")
    Further reading:
      aseXML Schemas
      aseXML Document Samples

HOW WE WILL SUPPORT YOU

- AEMO will support participants through a range of engagement channels:
  - o Information sessions relevant to the key workstreams (Wholesale, Retail and Power Systems) where IT considerations will be presented and issues may be discussed
  - o A means to request assistance on specific IT matters through our Support Hub which will be serviced by dedicated support resources deployed within the Market Reform project
  - o Making available non-production environments against which participants can perform development and integration testing activities within their own IT implementation programs
- Specific details around our stakeholder engagement activities will be published in the near future