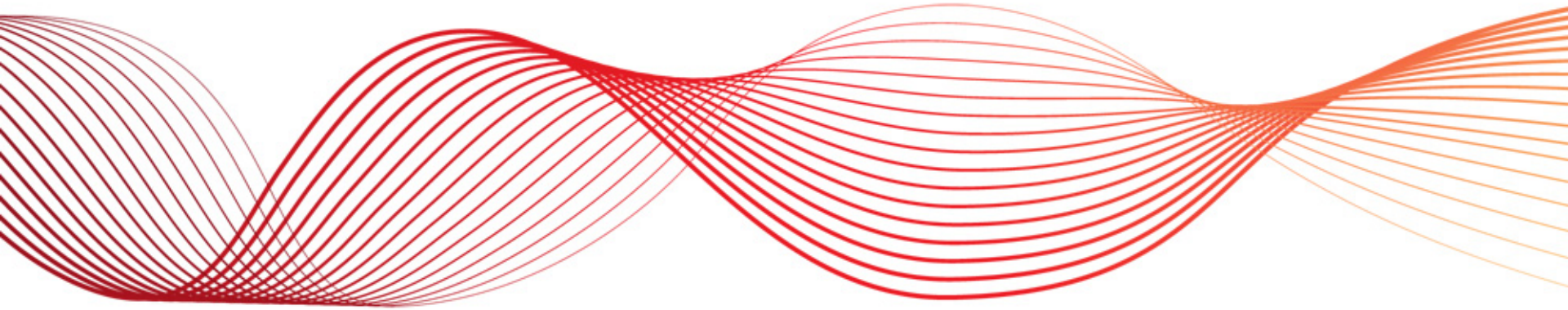
SHARED MARKET PROTOCOL

April 2015



AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

1. Background
2. The current NEM e-hub (B2B)
3. Shared market protocol requirements
4. Options considered
5. Proposed solution
6. Next steps

End

BACKGROUND

- On 25 June 2015, AEMO received terms of reference from the COAG Energy Council requesting advice on:
  - Minimum functionality specification for smart meters (provided in November 2014).
  - Shared market protocol for smart meter communications (due 27 February 2015).

- On 30 January 2015 the COAG EC accepted a proposal by AEMO to stage the delivery of shared market protocol advice.
  - Advice provided on 11 March 2015 considered:
    - A shared market protocol for communications between providers of smart meters and providers of smart meter-based services, including the initial scope and form of service levels, and performance requirements.
    - The likely information technology requirements, costs and timeframes for enhancing the existing B2B arrangements in order to implement and maintain a proposed shared market protocol.

BACKGROUND

- By 15 May 2015, AEMO will provide further advice on:
  - How new services could be incorporated into a shared market protocol over time.
  - Opportunities to leverage the shared market protocol to provide additional services in the energy market, such as streamlined access to energy data and usage profiles.

- AEMO engaged a reference group of interested parties in 2014.

- Reference group forums came to an end on 8 April, with feedback on the draft final advice paper closing on 13 April 2015.

- The advice sought from AEMO is expected to contribute to the development of a competitive metering framework, making it easier for parties to access advanced metering services and to reduce the barriers to entry for new retailers and energy service providers.

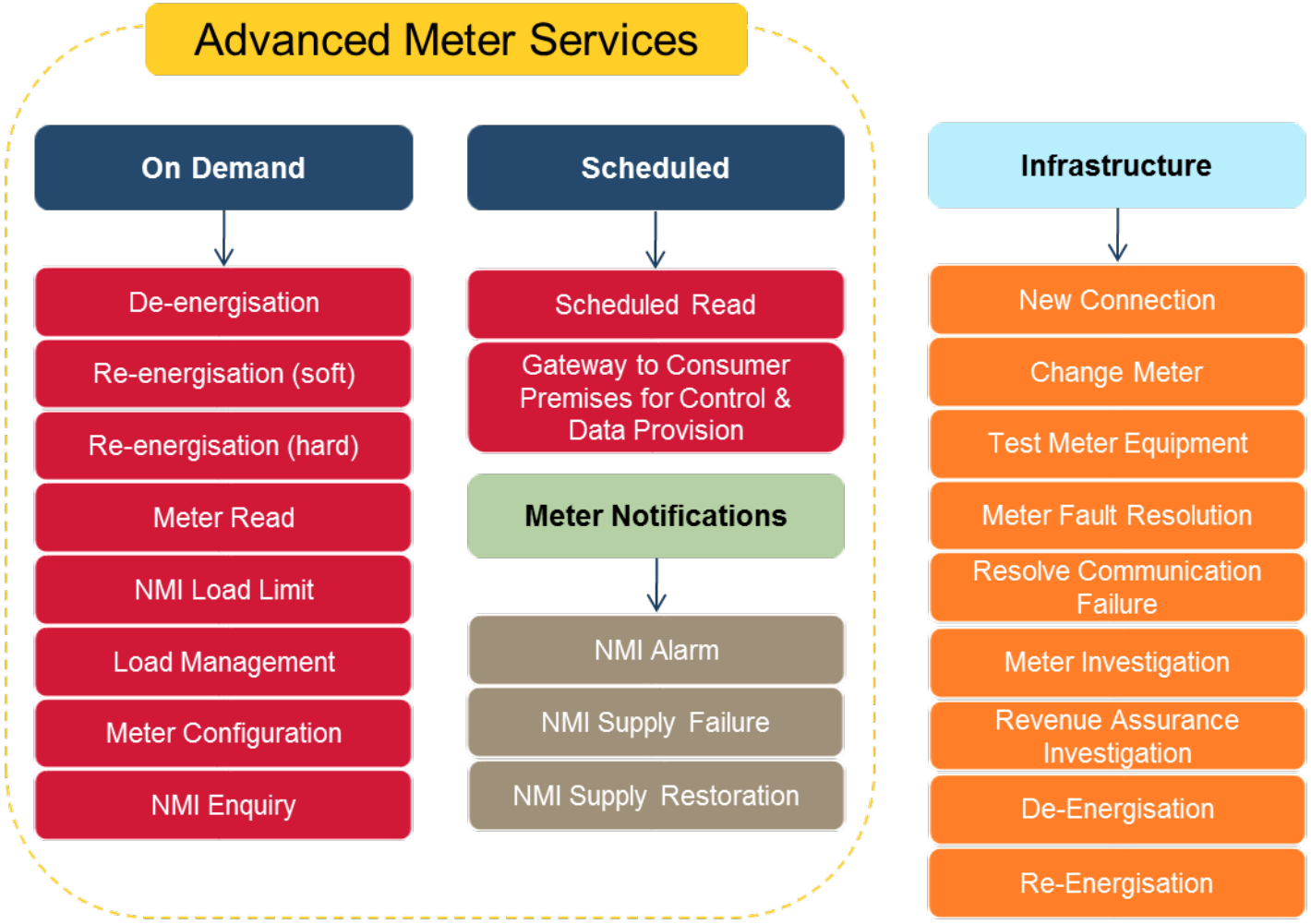
BACKGROUND

- The Power of Choice reforms contemplate an evolution in interactions between retailers, authorised users and service providers.

- COAG tasked AEMO to advise it on a shared market protocol to facilitate requests for advanced metering services from service providers.
  - Form of shared market protocol
  - What are the IT options? Including indication of costs and timeframe.
  - What can a shared market protocol offer to the market in the future?

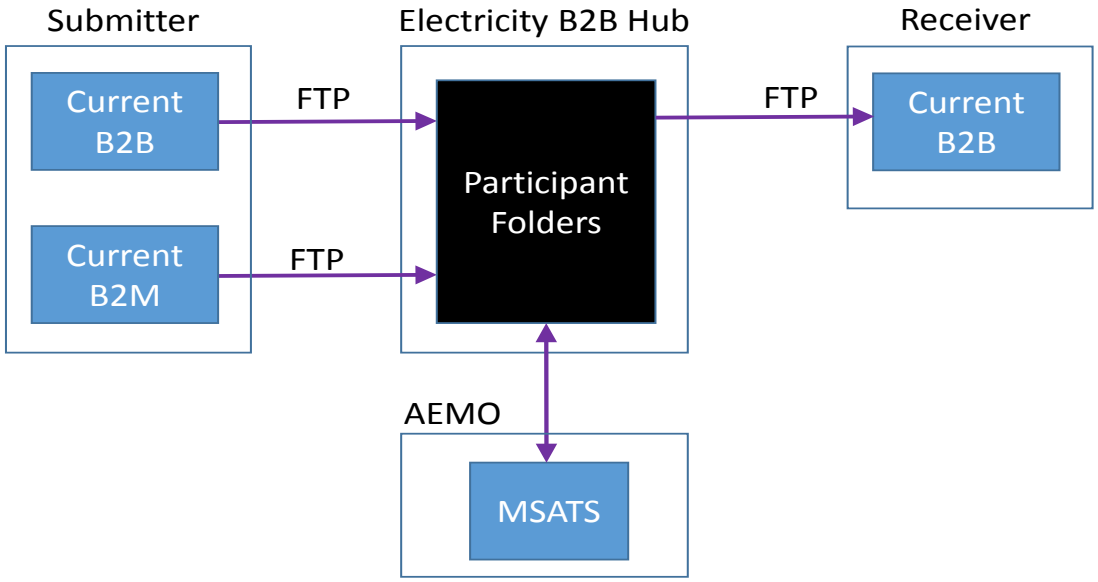
- Demand for “real-time” transactions, flexibility and security.

BACKGROUND - THE INITIAL SERVICES

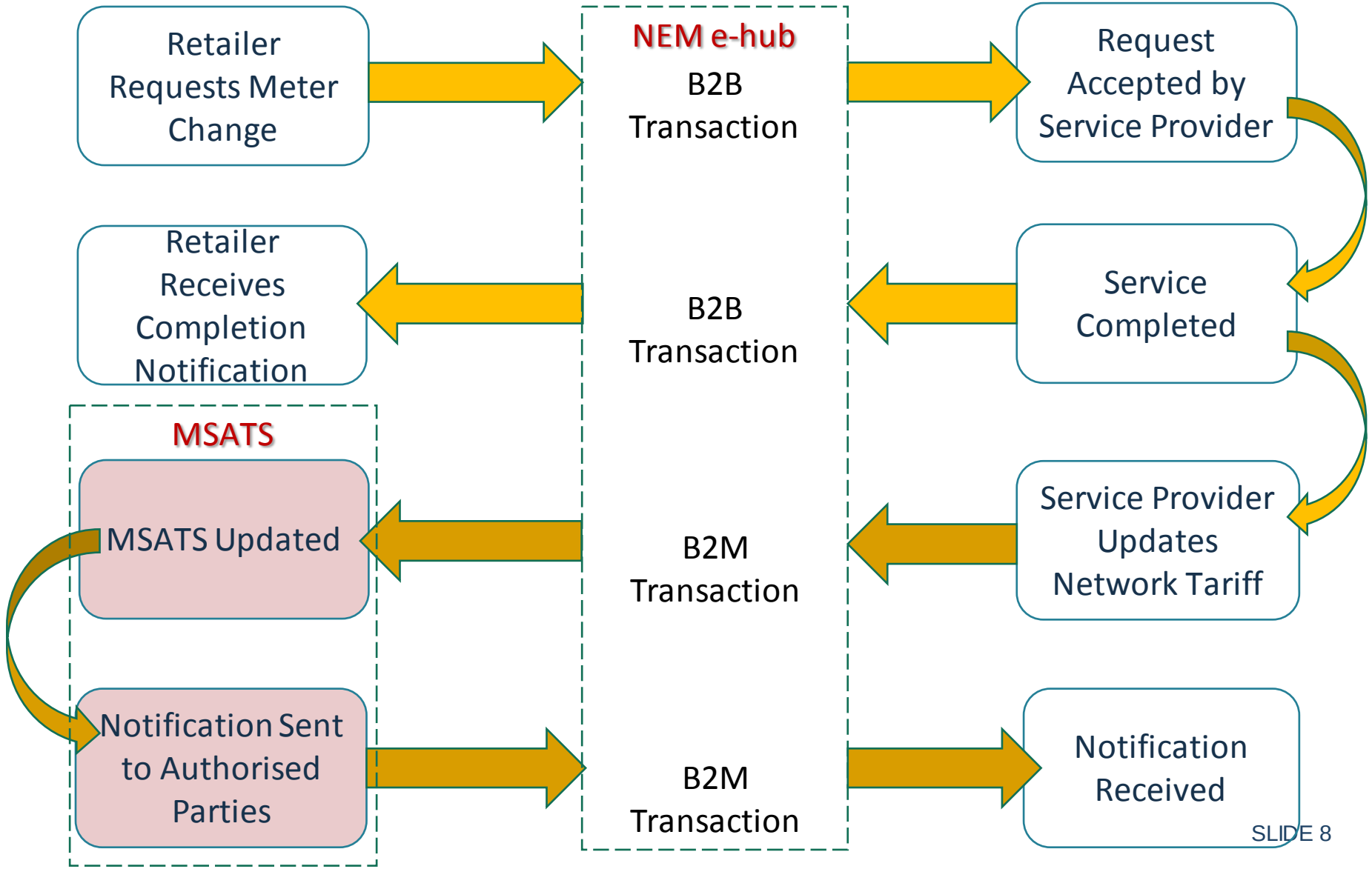


THE CURRENT NEM B2B HUB

- The current B2B hub is used by regulated service providers of metering services and by retailers requesting those services.
- It also supports business-to-market exchanges (B2M).
- Parties can access B2B via a browser or File Transfer Protocol (FTP).



THE CURRENT NEM B2B HUB - EXAMPLE



SHARED MARKET PROTOCOL REQUIREMENTS

- AEMO prepared its recommendations on the SMP in line with the National Electricity Objective and the following criteria:
  - The solution needs to allow parties to achieve the service levels and performance standards required from a market-led approach to metering services (e.g. 1-5 second transactions)
  - The solution should maintain compatibility with current business-to-business (B2B) functionality as well as current Victorian smart meter processes.
  - The solution must be extendable to support diverse options for evolution.
  - The implementation times and costs of any central systems must be reasonable.

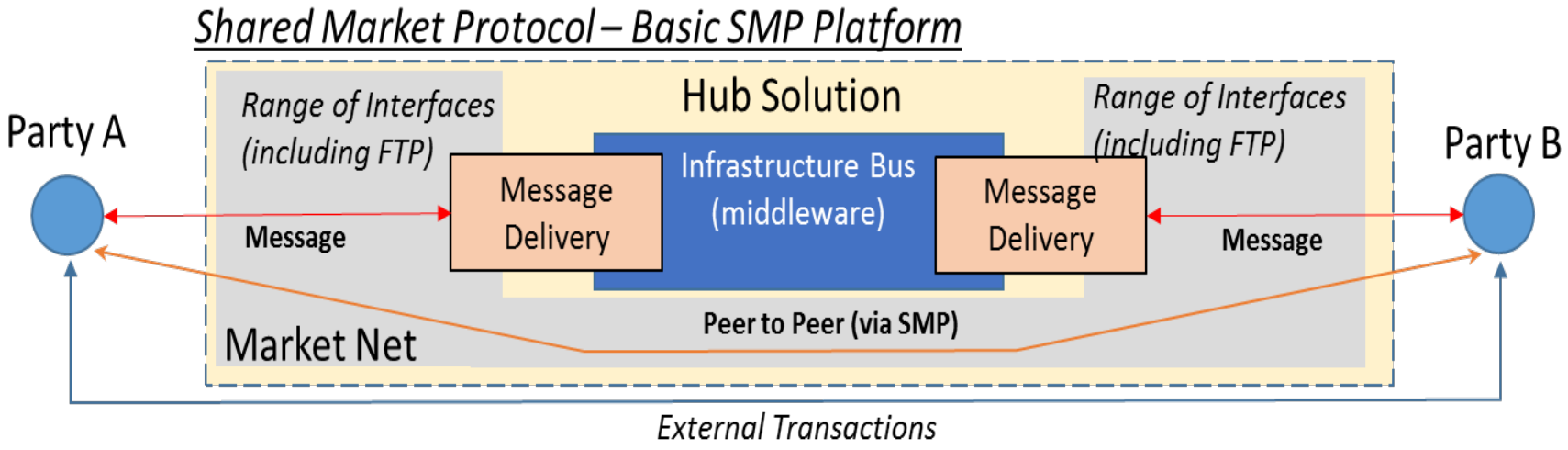
SHARED MARKET PROTOCOL REQUIREMENTS

- The current business-to-business (B2B) e-hub for the NEM was identified as lacking the speed, capacity and flexibility to be the platform for SMP.

- AEMO considered three alternate system designs for the SMP and determined indicative costs thereof:
  - Basic
  - Intermediate
  - Advanced

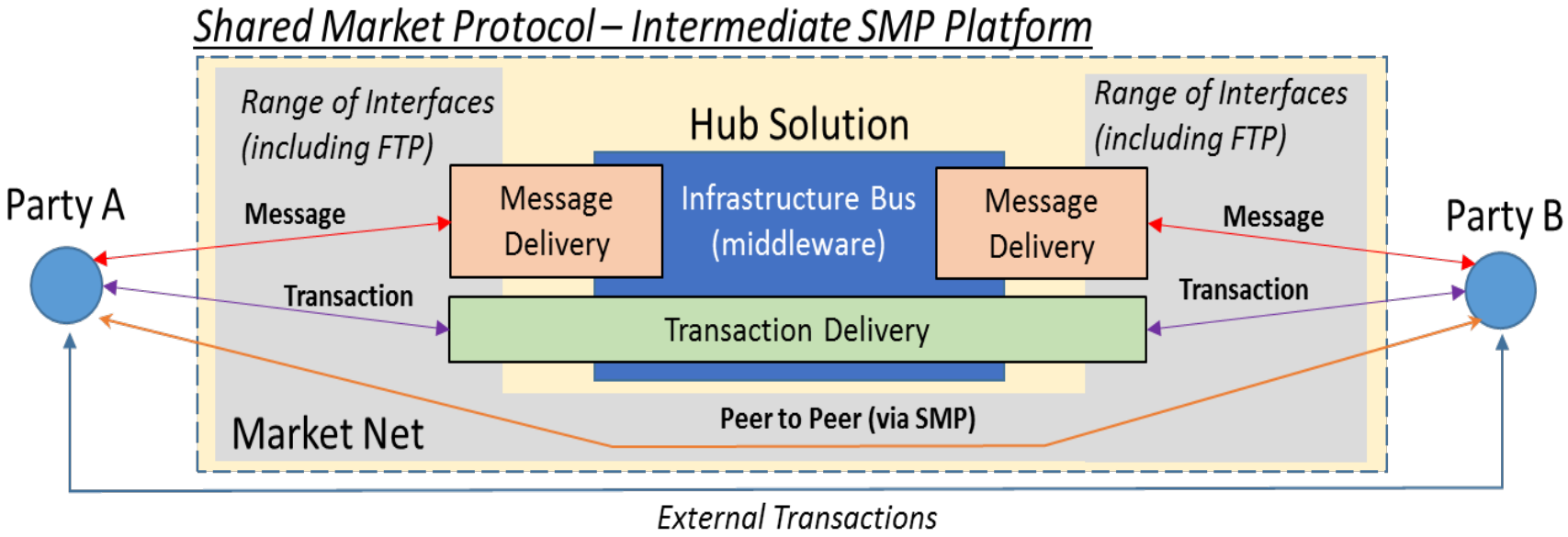
OPTIONS CONSIDERED

- The basic option considered an upgrade to the current platform, enhancing the messaging capability and introducing peer-to-peer capability in the SMP.
  - Near real-time request management (with caveats)
  - Compatibility with current B2B
  - Capability to bring new services to market via peer-to-peer



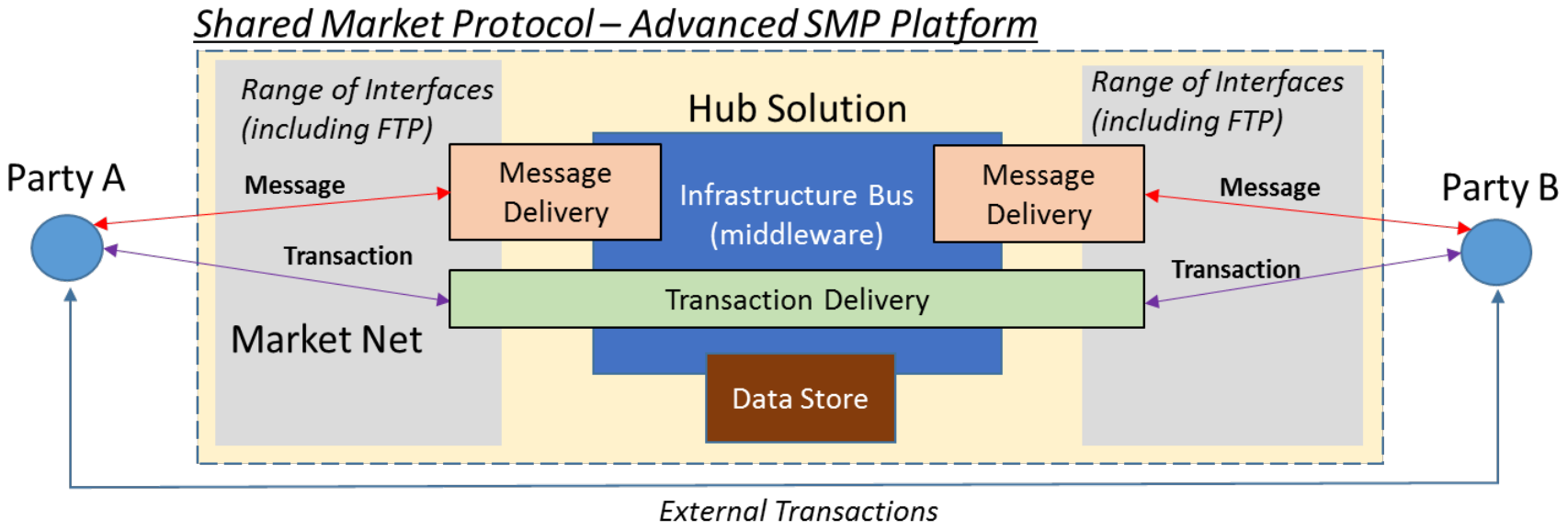
OPTIONS CONSIDERED

- The intermediate option added web services transaction delivery capability.
- A web-service capability enables users to easily integrate their customer management systems with the SMP Platform



OPTIONS CONSIDERED

- The advanced option added the concept of a common data store to the proposed intermediate platform.
- This option allows some transactions to be routed through the data store and back to the requestor.
- Peer-to-peer is removed from this option.



OPTIONS CONSIDERED

Option and features	Estimated AEMO Project Costs / Timeframe
Basic SMP Platform (incl. Hub establishment and Market Net expansion)	$6M - $10M 12-18 months once design is established
Intermediate SMP Platform (incl. Hub establishment, Market Net expansion and web-services)	$8M - $13M 12-18 months once design is established
Advanced SMP Platform (incl. Hub establishment, web-services and Data Store)	$12M - 26M Unable to determine at this time – complexities of data store component

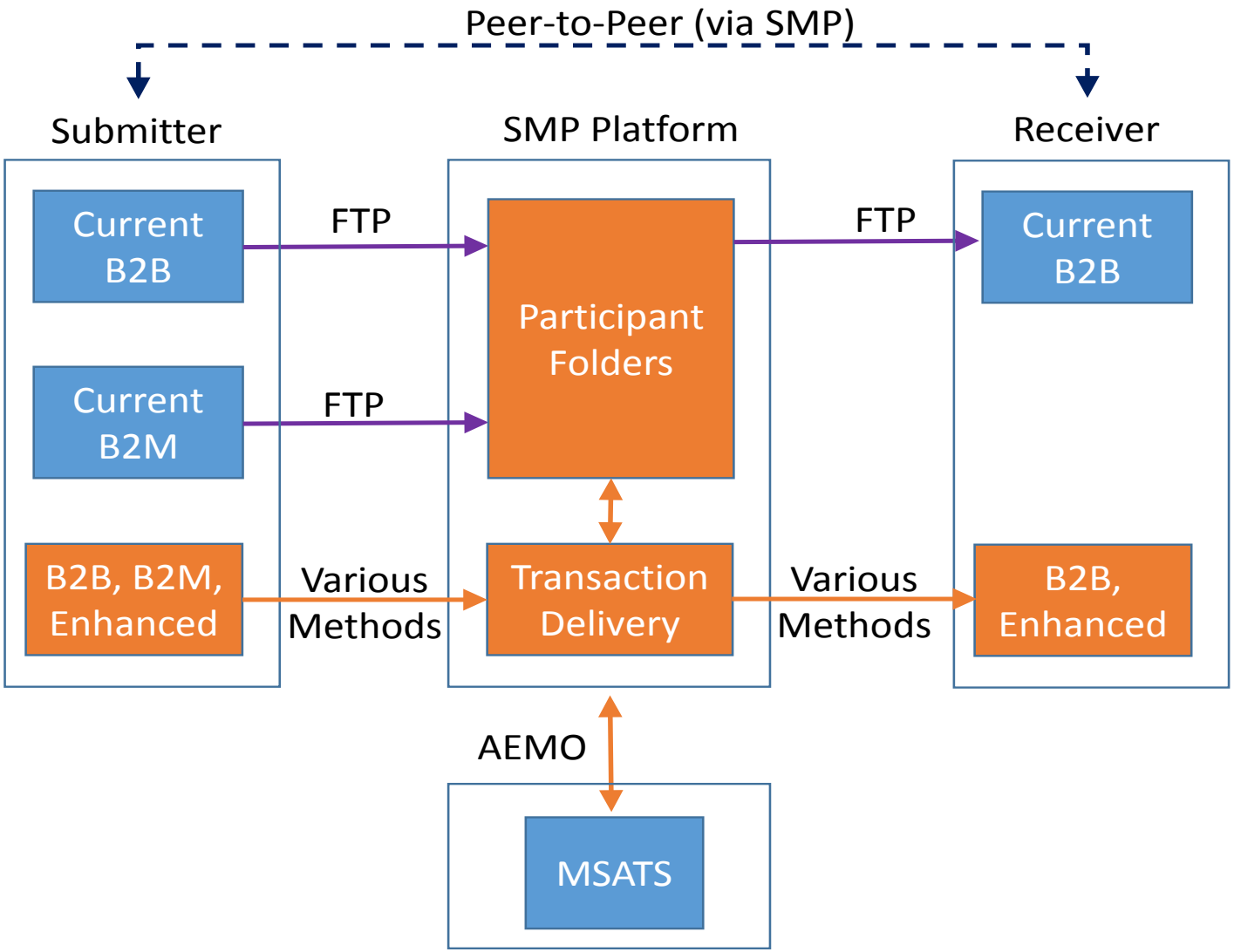
OPTIONS CONSIDERED

Feature	What Is Provided	ADVANCED	INTERMEDIATE	BASIC
B2B Messaging (Based on Gas B2B upgrade)	B2B compatible 'Real time' exchange	✓	✓	✓
Peer to Peer Within AEMO Networks	Flexibility to get new and exclusive services to market quickly. Secure/authenticated.	✗ Possible but not ideal	✓	✓
Transaction Delivery / Web-services	B2B, B2M Transaction enhancement Link to user systems	✓	✓	✗
Data Store	Enhanced data validation, Integrated B2B/B2M, Advanced transaction enhancement.	✓	✗ Could be added later	✗

PROPOSED SOLUTION

- It is proposed in AEMO's advice to COAG that the Intermediate SMP Platform be developed, replacing the current B2B hub.
- This platform would:
  - Support existing B2B functionality and existing Victorian processes.
  - Provide a messaging option for new SMP request types with the speed to support the highest performance requirements.
  - Provide a transaction delivery option incorporating web services:
    - Which provides a higher level of sophistication of SMP requests and facilitates wider service capabilities and future expansion.
    - Web-service enables users to easily integrate their customer management systems with the SMP Platform.
    - Gives users more options in how they interface.
    - Sender and receiver do not need to use same communication method.
  - Provide a secure peer-to-peer capability within the market systems, enabling users to quickly get new services to market.

PROPOSED SOLUTION



NEXT STEPS

- AEMO are continuing to finalise the second advice on the shared market protocol.

- This advice focuses less on the IT infrastructure options to support the SMP and more on the potential to leverage the SMP to provide future benefits, for industry participants and customers alike.