

Industry Data Exchange -AEMO Gateway Software



NEM Reform Foundational & Strategic initiatives
Technical Deep Dive

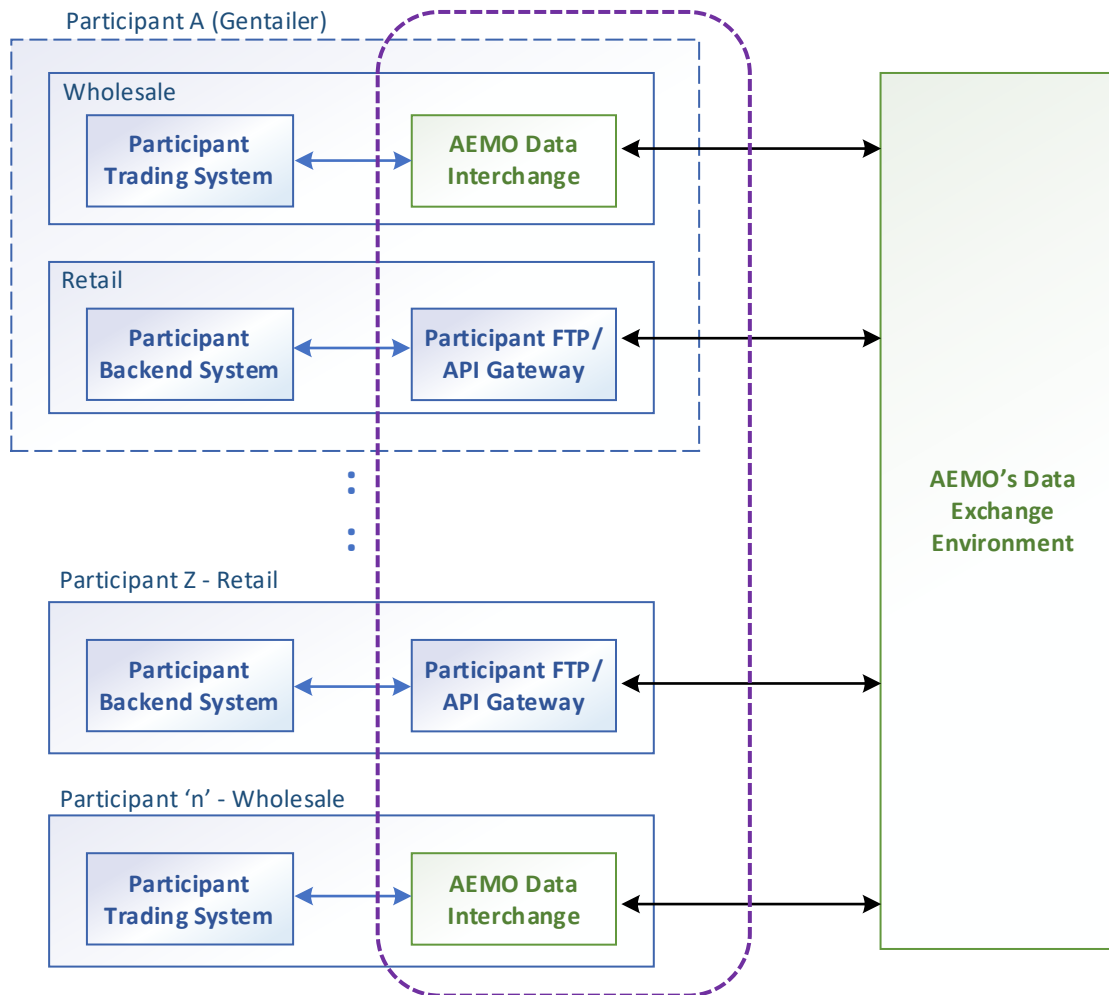
02 Aug 2023



What is Gateway Software?

Gateway Definition

Software hosted in the Participant landscape which plays a crucial role in communicating with the AEMO IDX Environment in the agreed channels, protocols, and patterns.



Key Messages:

- 1) Gateway software connects Participants' systems and AEMO Data Exchange Environment on the agreed protocols, channels, and patterns that are specific to each of the markets
- 2) Gateway connects to AEMO Data Exchange Environment on the agreed AuthN & AuthZ patterns and security mechanisms (e.g. https mTLS connections)
- 3) Gateway implements schema validations
- 4) Gateway manages the generation and delivery of message-level acknowledgements
- 5) Current State-All Participants have a Gateway Functionality which they can have their own gateway or AEMO-supplied software that is currently offered for each of the markets
- 6) Future State - All Participants can continue to operate gateway – they can either use their own gateway or AEMO-supplied software that is currently offered for each of the markets

Current State

Current software definitions

Current gateway landscape

Current software definitions

Current AEMO-Supplied Software

AEMO currently offers the following software hosted in the Participant landscape to communicate with the AEMO NEM Retail and Wholesale environments through **FTP only**.

Retail

Participant Batcher software (Batcher)

- Provides a simple batch interface to MSATS and B2B by removing the detail of the file handshaking and leaving participants to deal with the raw .zip files only.
- The Participant Batcher software transfers files from and to the MSATS and B2B participant file shares using FTP.
- The Participant Batcher software does the entire message acknowledgement and file manipulations as required by the batch file interfaces.
- The intended users for the Participant Batcher software are:
 - Participants having a Participant ID to access AEMO's IT systems.
 - Participants in the retail market interfacing with the MSATS system.
 - B2B Hub participants interfacing with the B2B e-Hub, including B2B users interfacing with the AEMO Network Outage Scheduler (NOS) and the High-Speed Monitoring (HSM) system

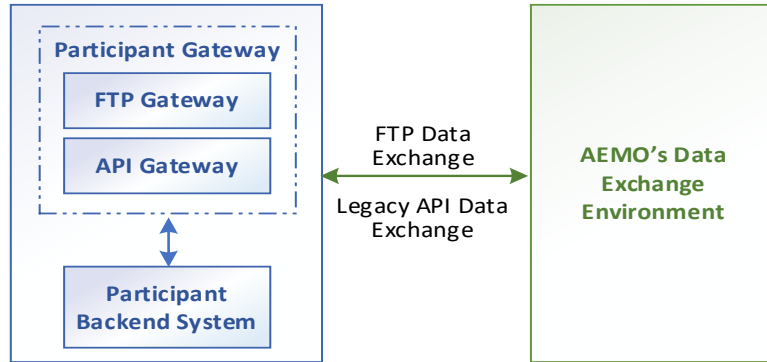
Wholesale

Participant Data Replication Batcher (pdrBatcher)

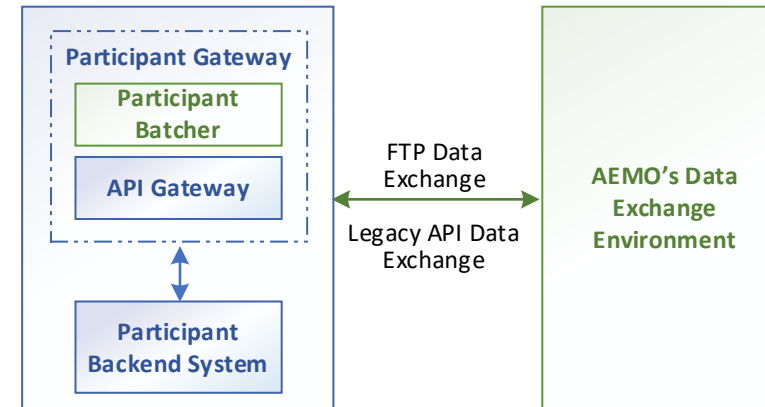
- Provides a file transfer solution for transferring files to and from AEMO's participant file server to the participant's local Data Interchange folders.
- The pdrBatcher software transfers files from and to Wholesale participant file shares using FTP.
- A prime use for the pdrBatcher is a simple interface to the wholesale market system to collect CSV files published to a participant's directory on the participant file server. A companion product, the Participant Data Replication Loader (pdrLoader), can parse those files into a local database instance, implementing the Electricity or Gas Data Model.
- pdrBatcher can also be used to submit files to the processing of AEMO market systems.
- The intended users for the PdrBatcher software are:
 - Participants replicating data between AEMO's Wholesale Market Systems and their RDBMS conforming to the Electricity and Gas Data Models.

Gateway Landscape - Current state

Retail

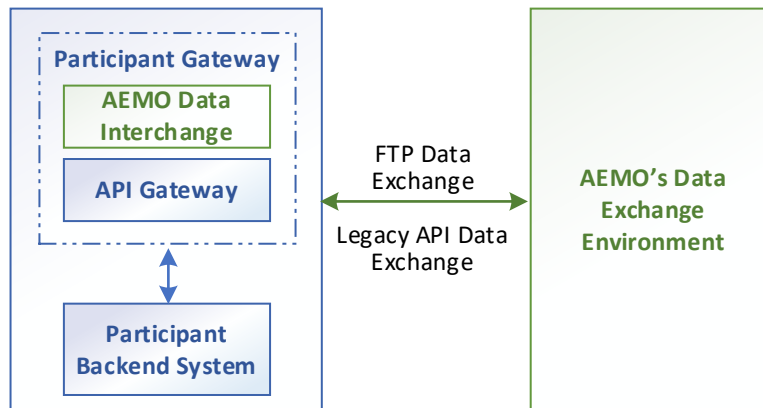


Participants are operating their own gateways for managing inbound and outbound data

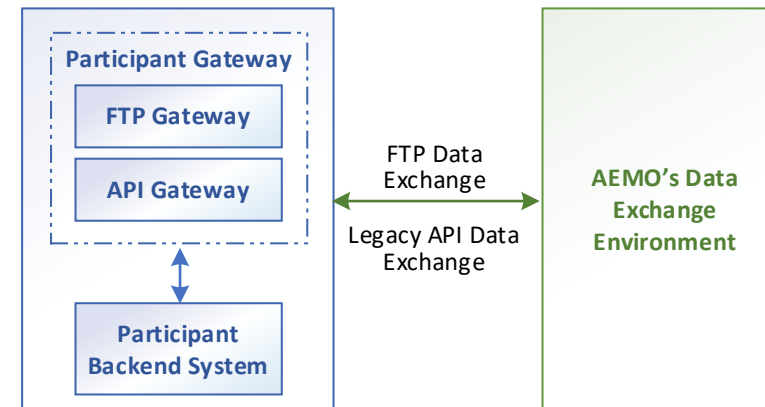


- Participants are operating ParticipantBatcher, an AEMO-supplied software to perform hokey-pokey FTP data exchange
- Participants are operating their own data exchange software for exchanging data via API

Wholesale



- Participants are operating AEMO Data Interchange Software (pdrBatcher, pdrLoader & pdrMonitor), an AEMO supplied software suite to exchange data via API
- Participants are operating their own data exchange software for exchanging data via API



- Participants are operating their own gateways for managing inbound and outbound data

AEMO Gateway Software

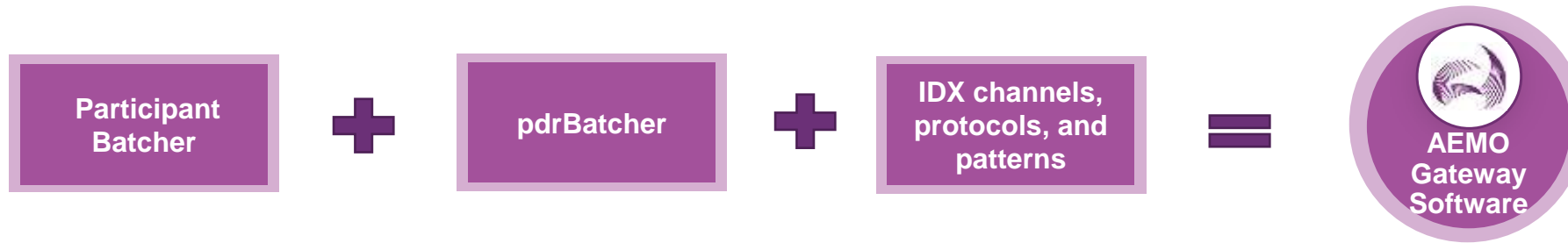
AEMO Gateway Software Overview

AEMO Gateway Software Capabilities

Participant end state landscape

AEMO Gateway Software

AEMO proposes providing Industry with a new AEMO-Supplied software product that combines the Participant Batcher, pdrBatcher capabilities and is extended to support the target state AEMO IDX Environment.



Why is it part of the IDX Transition strategy?

Opting for the AEMO Gateway Software streamlines the transition, minimise disruption, and maximise operational continuity. It acts as a protective layer, insulating participants' existing systems from the brunt of change while bridging the gap to the IDX target state. Its native connectivity to the AEMO Data Exchange Environment, customisable integration patterns and payload translation capabilities significantly reduce technical complexities. It shall be designed as a common software solution across all markets (NEM, WEM, DER) and fuels (gas).

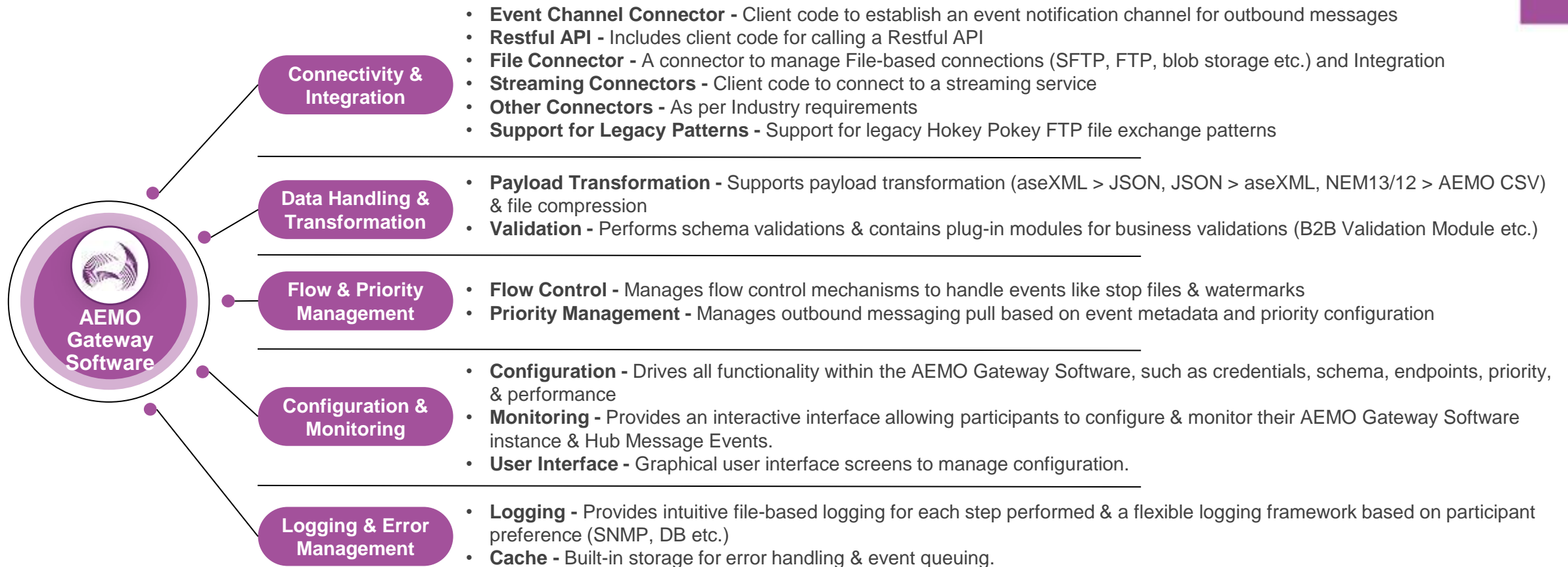
Gateway Principles

- The AEMO Gateway Software provides standard gateway capabilities, including efficient protocol conversion.
- It is designed to support new participants during the transition by maintaining compatibility with legacy protocols.
- Backward compatibility is crucial, with payload conversion capabilities to aid change and transition management.
- To align with the IDAM roadmap, the software supports the latest IDAM patterns, ensuring secure and efficient identity and access management.
- The AEMO Gateway Software can be extended by Participants, for example, to add personalised validations and Transformations.

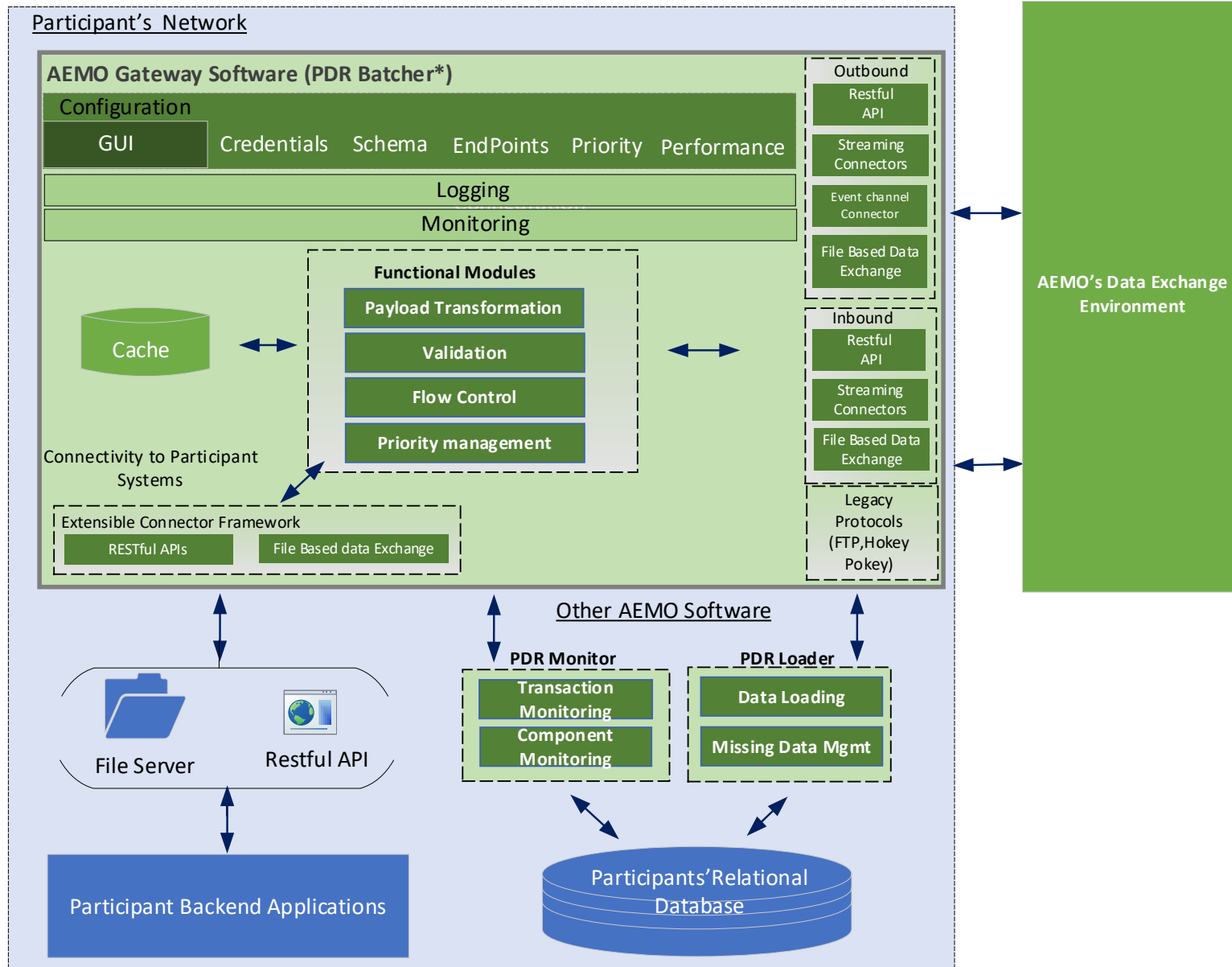
AEMO Gateway Software



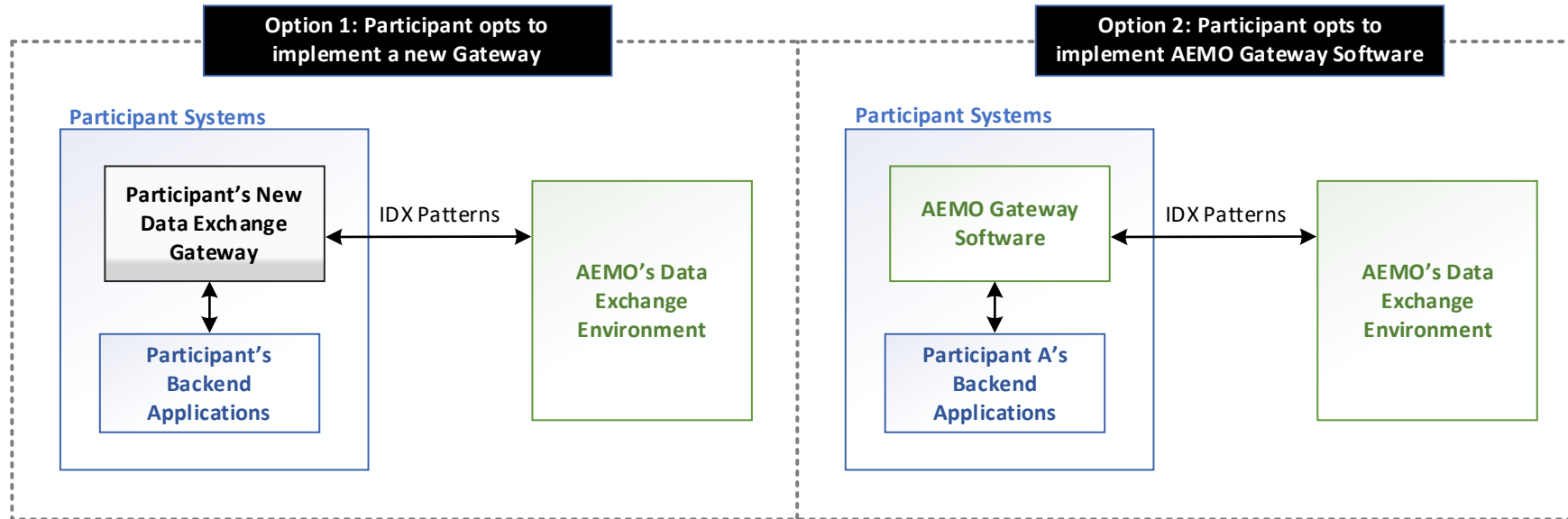
AEMO has assessed the foundational capabilities of the AEMO Gateway Software, designed to unify and simplify interaction with AEMO's centralised data exchange platform



AEMO Gateway Software



Participant End state Landscape



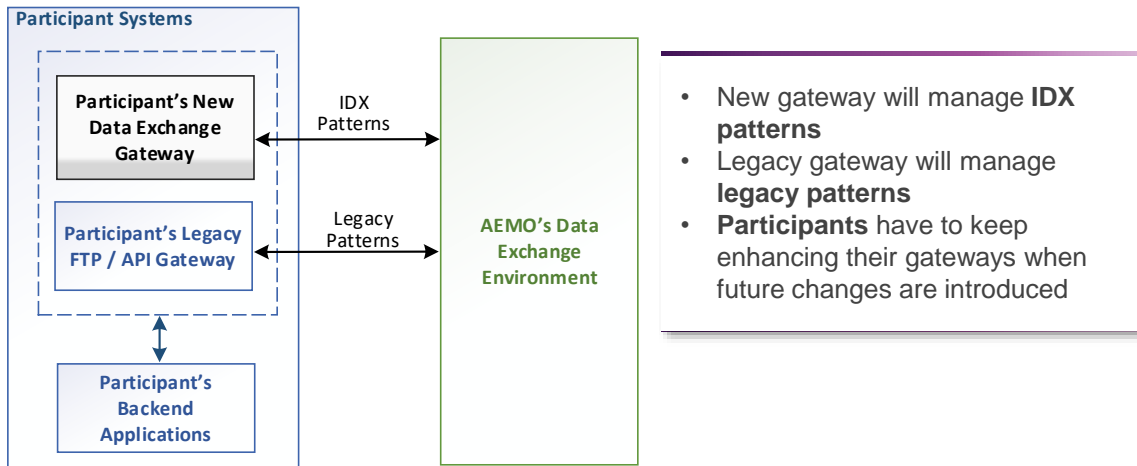
Transition Phase: AEMO Gateway Software



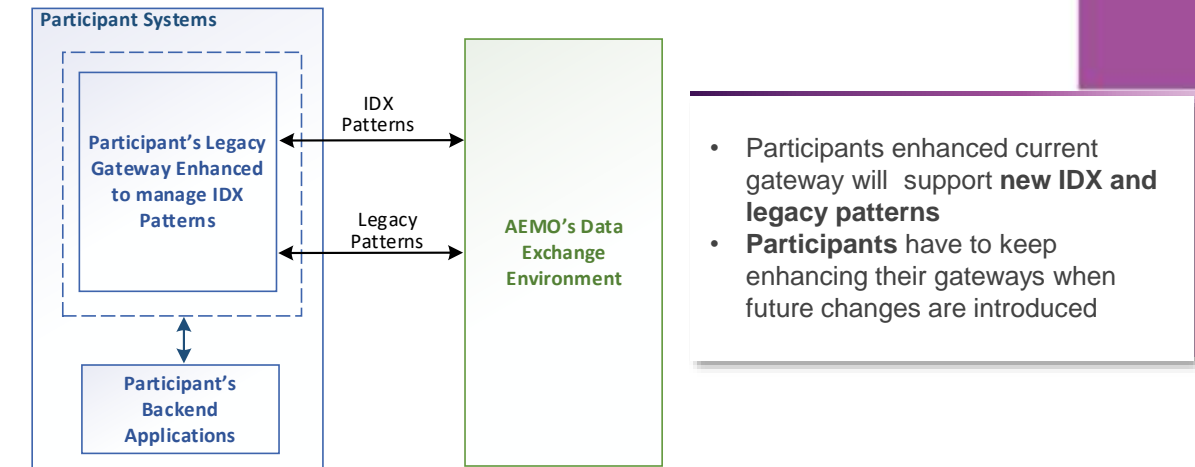
Transition Options
Industry Use Cases

Transition options

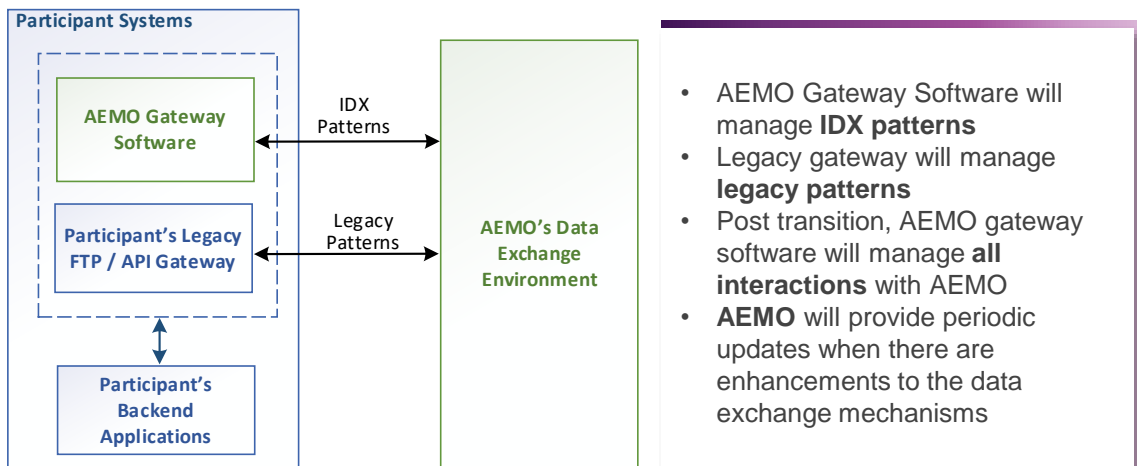
Option 1a: Participants choose to implement their own new gateway



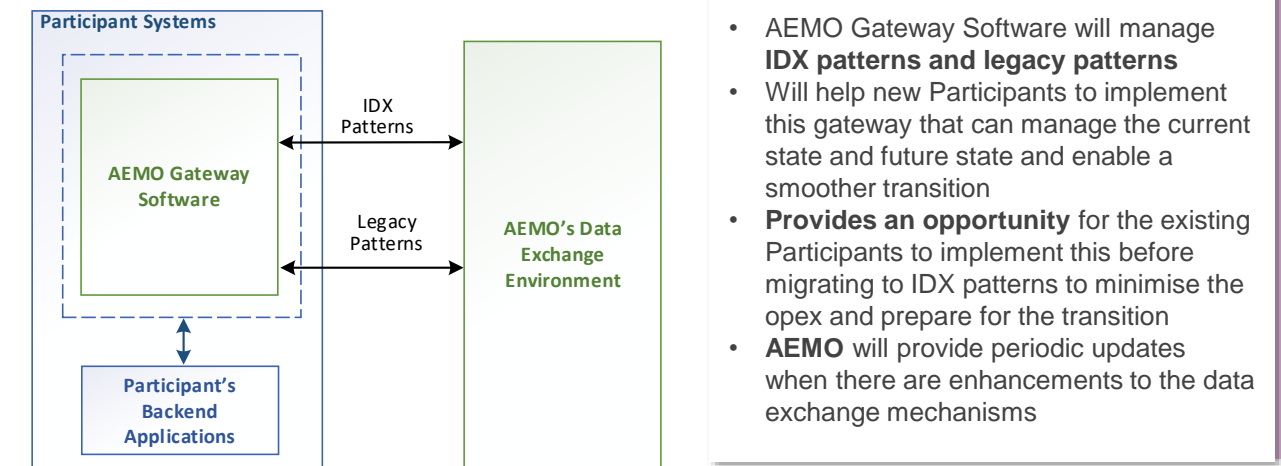
Option 1b: Participants choose enhance their current gateway



Option 2a: Participants implement and host AEMOs gateway software to manage IDX pattern

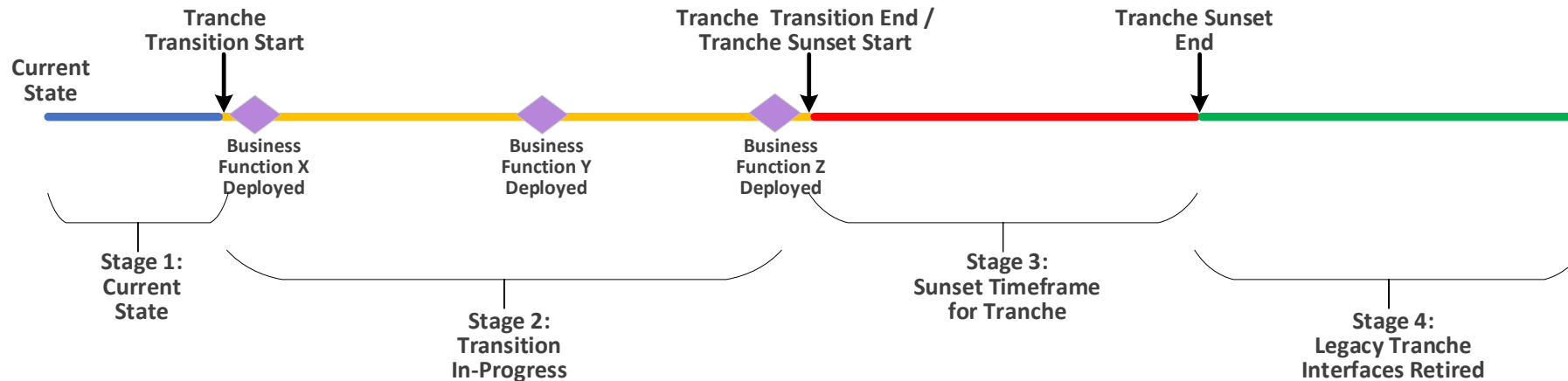


Option 2b: Participants implement and host the AEMOs gateway software to manage IDX patterns and legacy patterns



AEMO Gateway Software - Industry Use Cases

Next, we will present Industry use case views of how participants Gateway Software would likely support the transition from the current state to the IDX Target State. We will provide a stage sequence that consists of four stages: (1) Current State, (2) Transition In-Progress, (3) Sunset Timeframes, and (4) Post Sunset Timeframes. The ultimate goal is for every participant to transition to IDX Patterns for all NEM Wholesale and Retail Business Functions before Stage 4 commences.



Note: These stages are representative sequences; the actual Tranches and details will be determined with Industry consultation.

We'll discuss two distinct perspectives:

- where Participant A implements a new gateway software (option 1a), and
- where Participant A implements AEMO gateway software (option 2a).

We will focus on a Market Segment view of transition use cases and how the Gateway Software would need to configure to transition to the Target State progressively. To help you visualise and prepare for the transition process in a manner that fits best with your operations and needs.

Next Steps



- Consider whether your organisation can identify any other AEMO Gateway Software capabilities we've missed that have a material impact on the Business Case?
- AEMO welcomes any feedback from the Technical and Business Focus Group to NEMReform@aemo.com.au prior to the next session (4C).

Please reach out



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[AEMO | NEM Reform Foundational & Strategic Initiatives Focus Group](#)





For more information visit

aemo.com.au