**MHHS
PROGRAMME**
Industry-led, Elexon facilitated

DIP API Message Exchange Guidance

11 June 2024

MHHS-DEL2950

Background

- Several enquiries have been raised via the design mailbox with regard to message batching (sizing) and API behaviour. This has prompted the production of this Guidance note.

- At present on message ingress and egress the DIP firewall has a 1MB limit for a single HTTP transaction. This value is set to protect the DIP & Programme Participants from potential malicious activity.

- The limit has been reviewed for both interfaces and size of the reports generated by ECS (the largest potential single message).

- Message egress from the DIP will be sent singularly to Participants webhooks, i.e. unbatched. This will provide the optimal delivery method from the DIP and meet the Non-Functional Requirements (NFR).

API Messaging Behaviour – DIP Ingress

- Participants are advised that the largest single 'batch' of messages should not exceed 1MB.

- Participants should have the capability to scale message delivery horizontally if required

- The E2E requirement E2E001 "All services shall have the capability to control the number of messages that are sent within a single API call " was established so that PP systems could be flexible in their integration with the DIP.

- The comment in the current E2E documents states "Initially this value will be set to 50,000 -to be detailed in Interface Code of Connection" should be ignored and messages not be batched to a size of more than 1MB.

- Message batch size will be dependent on the specific Interface and the Participant system architecture and how it interfaces with the DIP

- If Participants are batching messages on interfaces they need to consider the size of the messages:

    - e.g IF-021 – message size ~10K – transaction size 500KB to 1MB means 50-90 messages

- Participants are advised to "tune" their transaction sizes when undertaking performance testing with the DIP, and also vary the number of concurrent connections to the DIP (where possible), in order to get the best performance.
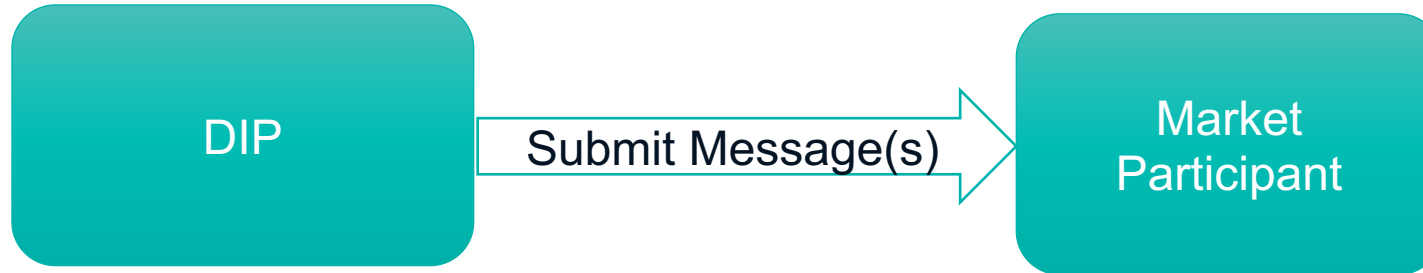
Background

- DIP messages will be sent singularly to PP webhooks, i.e. unbatched.

- The DIP will attempt to make multiple concurrent connections across all end points in order to send the volume required to support the ecosystem.

- This will provide the optimal delivery from the DIP and meet the NFR requirements.

- Participant endpoints should be able to scale horizontally to support the concurrent delivery of messages.

API & Webhook Message Exchange Guidance

ECS Report Sizes

- ECS reports represent the largest single messages in the MMHS ecosystem. Changes were made last year to reduce the payload size by introducing compression.

- Table below presents the first cut of the expected ECS message sizes:

Report	Average Size (bytes)	Maximum Size (bytes)
REP-002	29706	123683
REP-002A	71136	72697
REP-002B	274127	464517
REP-003	13500	15326
REP-004	1356	1436
REP-006	5556	11316
REP-008	754	758
REP-009	1447	1454

- Volumes based on 49 million synthetic MPANs

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