ELEXON

MHHS AWG

Architecture Risk Assessment

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Contents

Introduction

The AWG architecture risk assessment is a method used to capture issues that impact the architectural approach for the MHHS operating model.

Examples of issues include:

- Disruption to operations of market roles, resulting in data not being sent or received
- Timing and SLA concerns that can cause data synchronisation issues
- Increased cost and other demands that may result from the architectural choice
- How to reduce the impact of transitioning to a potentially different technology

Data Availability

MHHS makes changes to data integration (synchronisation) between the new market roles and new/modified services provided by those roles.

Data must be made available between data producers data consumer.

Timing:

Data should be distributed between market participants as soon as possible	
Follow the principle whereby data is made available without delays	
Each interface should have a business SLA to indicate the maximum allowed time delay	
Meet aspirational targets for speed of data exchange but allow for exceptions (e.g., may use batch interfaces where needed)	
Provide the opportunity to use improved technology which will encourage faster execution of data transfers	

Resiliency and Storage:

Data created by data producers may need to be retained by those data producers in case of problems in the network, resulting in additional storage and logic requirements for each organisation	
Data created by data producers can be immediately passed to a data integration component (an adapter), resulting in minimal technology changes within each organisation	
If data consumers cannot receive their relevant data, they should still be able to receive everything they missed, once they have resolved their issues	
Data consumers may request previous/historical data, up to a certain historical point in time	
All data sent by data producers should be stored (or retained) for an agreed time period, to aid recoverability and re-processing	
Data distribution/transfers must have an availability SLA	

Transfer and Distribution:

All data transfers should be automatic. But restricted data should only be automatically provided to authorised industry roles	

The method of distribution should guarantee delivery of content, obviating the need to create acknowledgment logic	
Allow transition between older and newer technologies so that existing system logic can be maintained across generations of hardware/software	

Industry Change

MHHS is an industry change which must be accomplished within a set time frame and within the limits of what can be achieved by all market participants.

Complexity & Cost:

The AWG recommended architecture should not be too simple/narrow it cannot cater for future changes	
A major change to IT infrastructure or methods may be too costly for some market participants	
Cost effective architectures may be not be suitable for future growth or future requirements	
The MHHS (current) requirements and control of costs are of primary importance	

Suitability:

MHHS may impact as-yet unknown processes and so the AWG recommendation must be applicable to a wide range of data synchronisation requirements	
Existing technology may be due for an upgrade and MHHS should take advantage. Even though costs will be a factor, this should be balanced against market progress	
The architecture should be scalable to cater for possible increasing numbers of data transfers and /or data producers/consumers	
Future requirements must still be considered and balanced to enable long-term value, although this should not negatively impact or deter the immediate needs of MHHS	

Technology Change

MHHS makes some dramatic increases in the amount of consumption data that needs to be transferred between services. To handle this volume and to enable the general trend in the industry where increased load and frequency of data will be required indicates that some technology improvements/upgrades would be beneficial.

The variety of technologies used by market participants internal IT systems should not prevent their ability to implement the AWG recommended architecture	
The AWG recommended architecture should allow creation of adapters and connectors to enable data producers and consumers to transition technology over time	
To avoid being impractical or inflexible, the recommended architecture should follow modern industry standards and patterns for data integration	
Technology complexity should be balanced by MHHS business requirements	
Promote industry inclusion in the high level design phase so that market participants have an opportunity to assess and influence the technology complexity	

The AWG recommended architecture should allow technical data validations but should exclude business validations (business rules)	
Technology transition should be made as flexible as possible to accommodate the variety of market participants resources	
The AWG recommended architecture should allow increases to both compute processing and data storage resources	
It should be possible to component test or boundary test roles/services in isolation or in limited configuration	

Data Security

Data integration requires both physical data security and auditable data governance.

Data being transferred by must not be accessed by unauthorised parties and so appropriate security controls such as role-based access and least-privilege data provision should be enforced	
Data distribution requires data publishers and data consumers to be registered as valid organisations. Therefore, the AWG recommended architecture must allow for this technical facility and an industry party must manage the governance	
The AWG recommended architecture must allow for data governance and security to be an integrated component or process	