



Access to Distributed Clinical Data via FHIR

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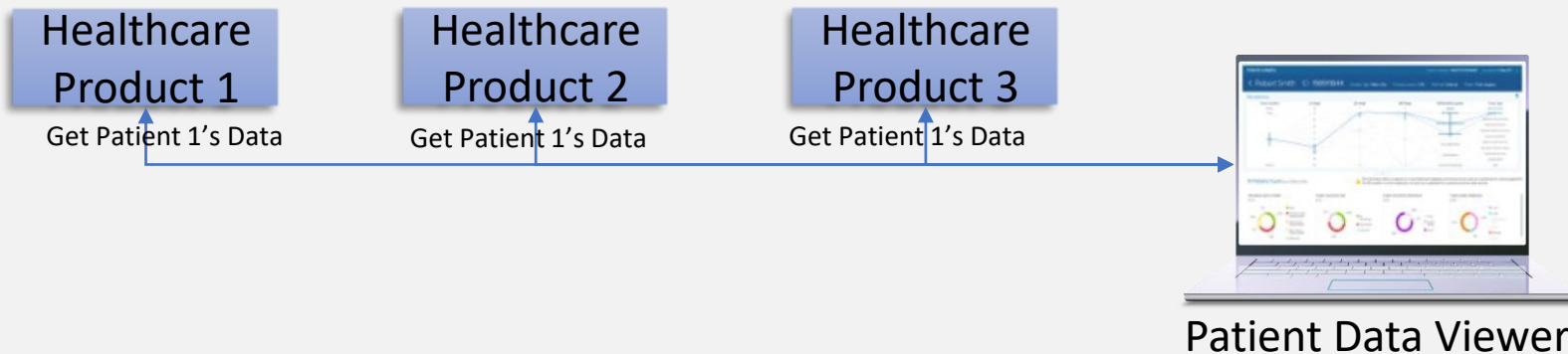
Agenda

- Problem Statement
- Approach
- Best Practices
- Challenges Faced
- Conclusion



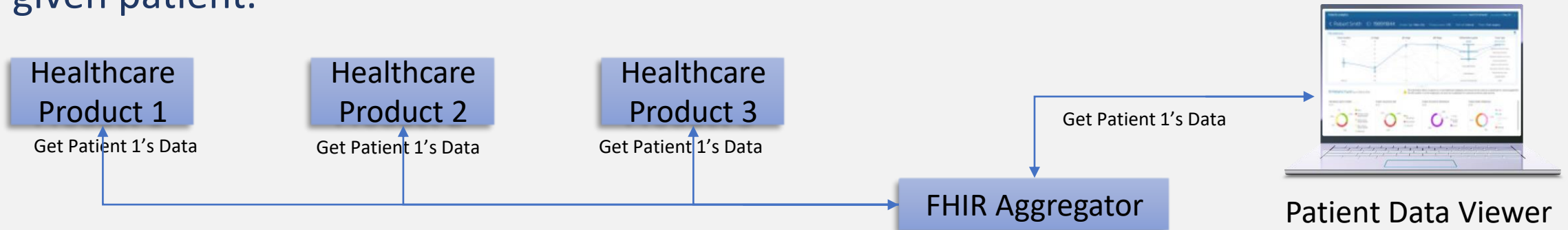
Problem Statement

- Patients' data is scattered throughout systems and there is no standard way of having a patient centric view. There is no single point of access to the data stored in different systems within healthcare continuum.

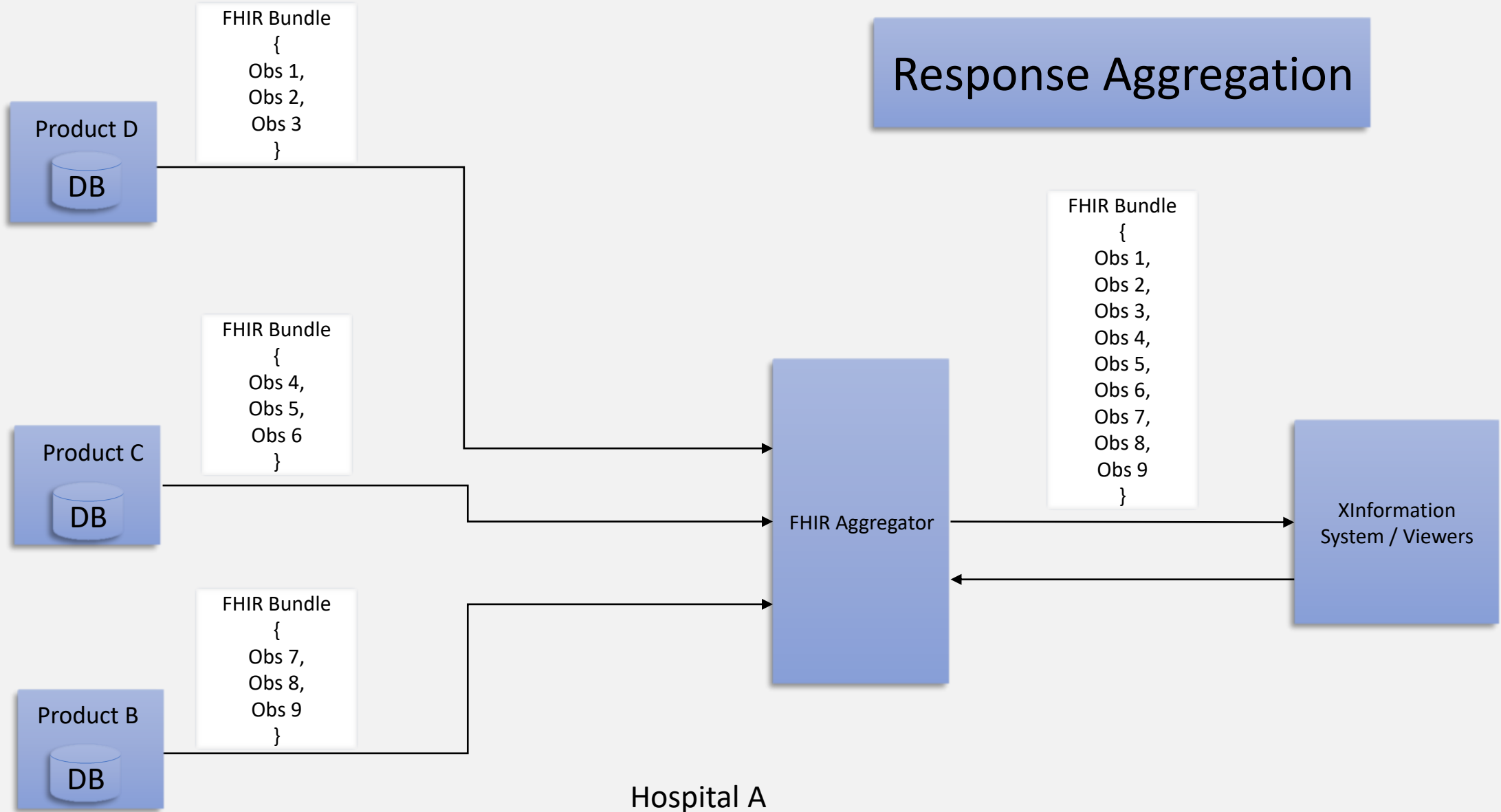


Approach

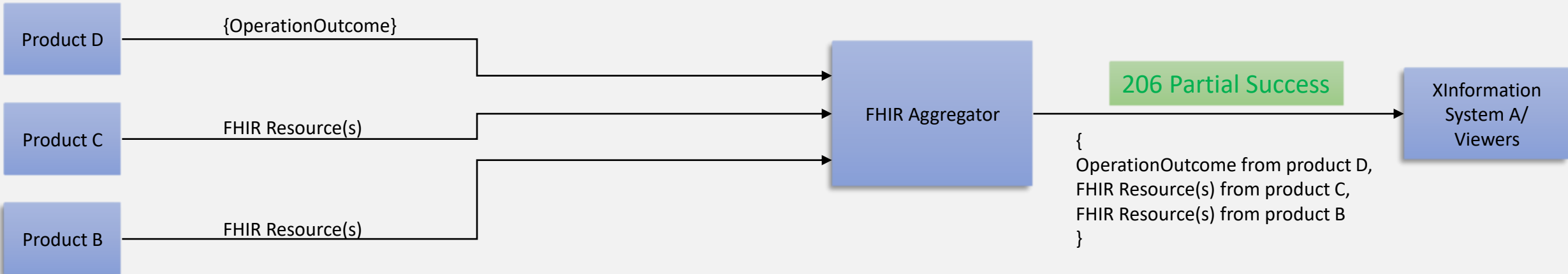
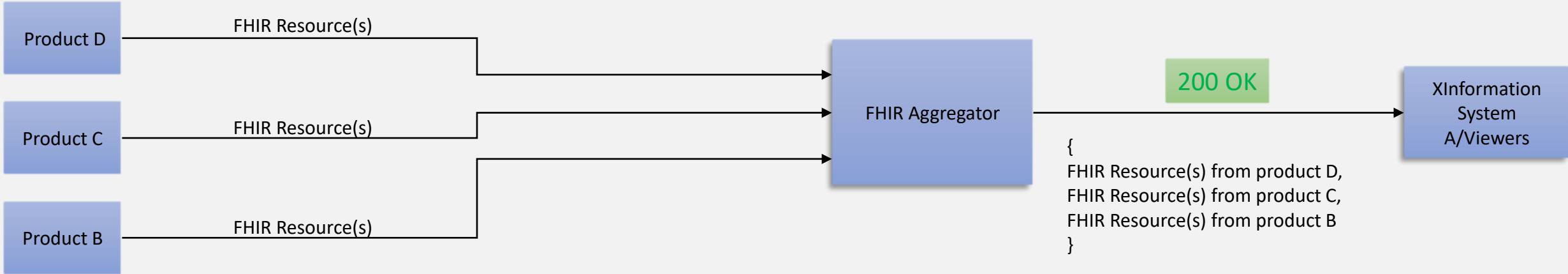
- FHIR Aggregator: Single FHIR endpoint to access distributed clinical data for a given patient.



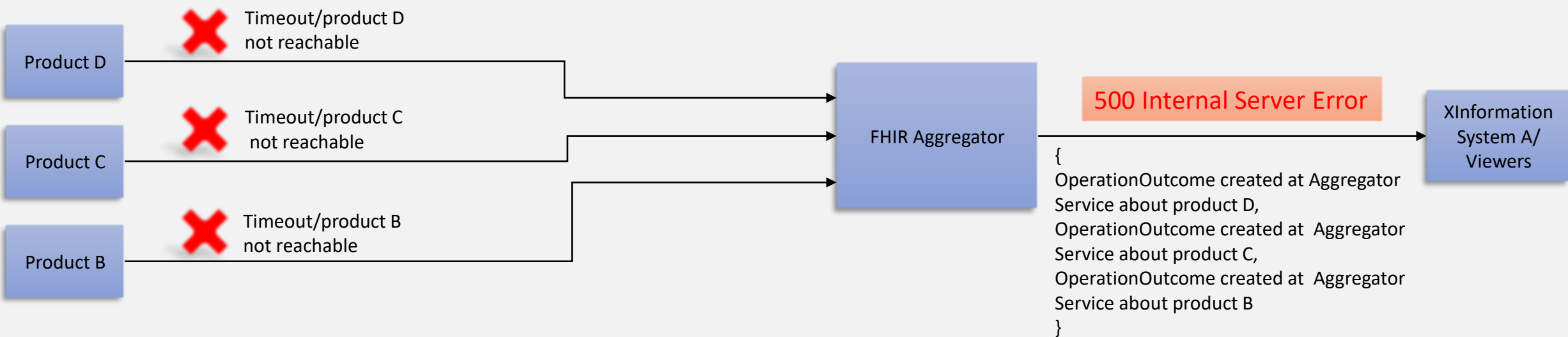
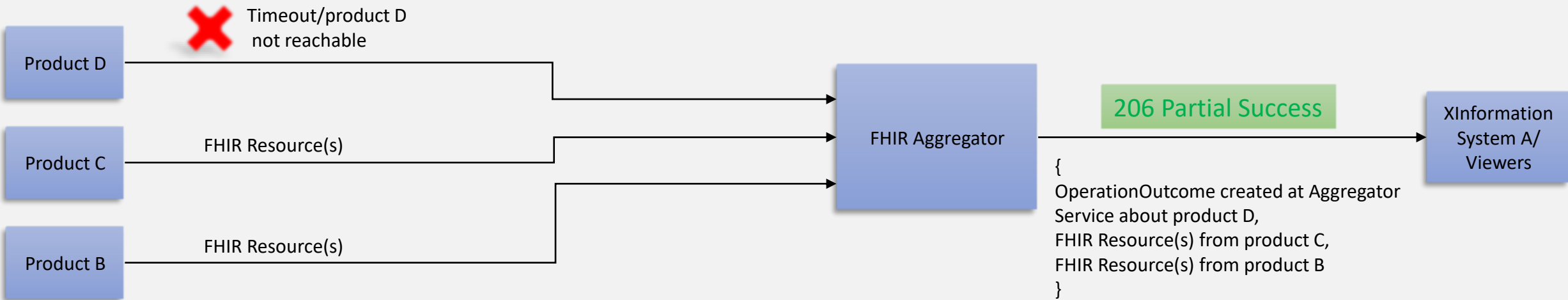
- FHIR Aggregator shall provide a single transparent FHIR interface to the underlying FHIR data stores for request routing.
- Using the FHIR Aggregator, the product shall be able to retrieve data from multiple data stores to present a longitudinal view of patient data to care providers.

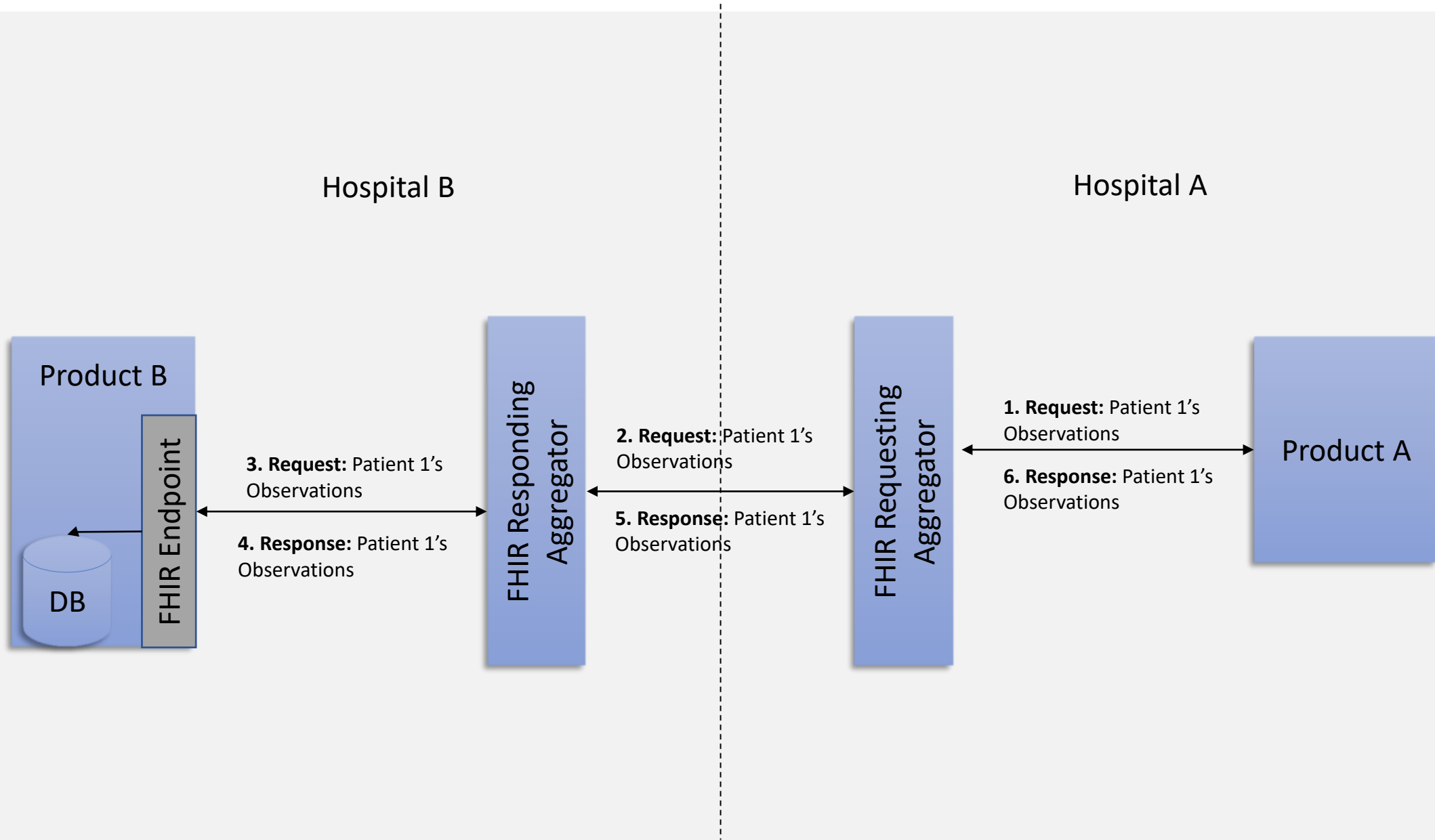


Error Handling



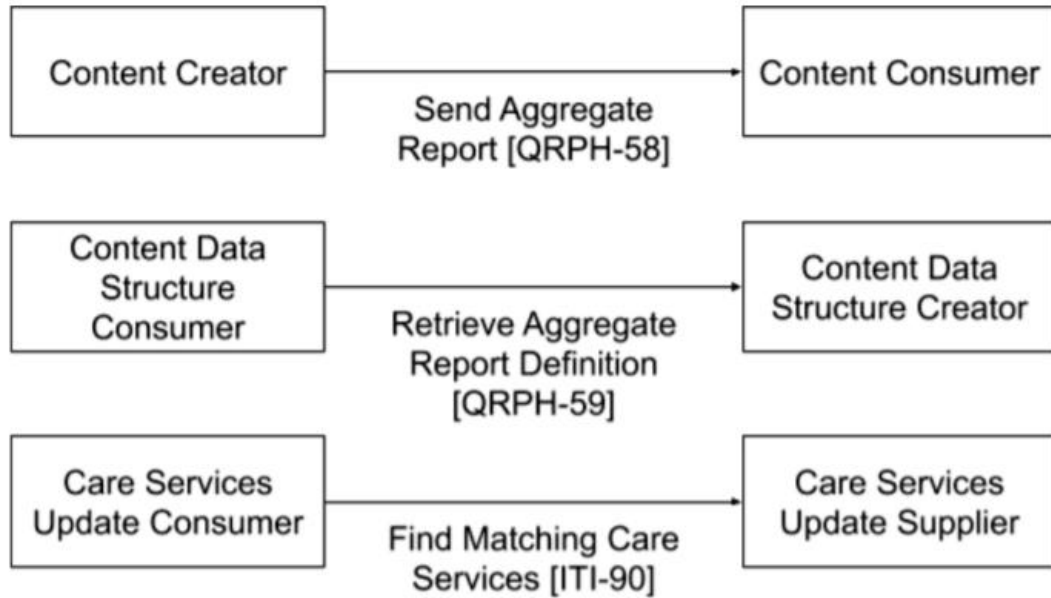
Error Handling





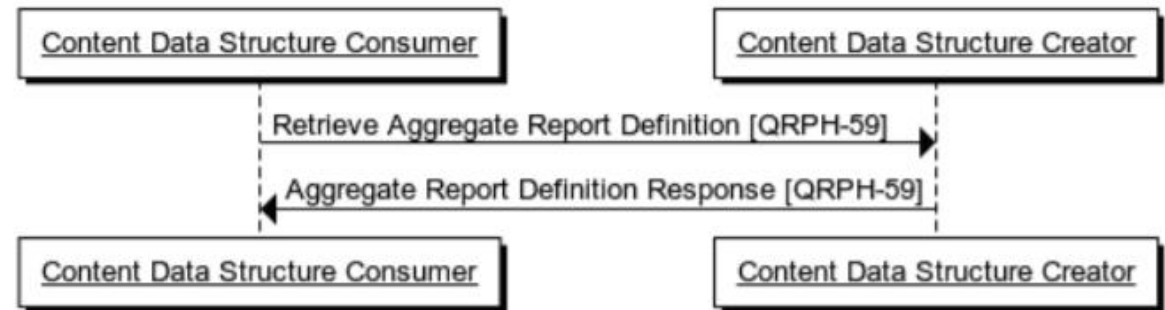
Mobile Aggregate Data Exchange (mADX)

- The Mobile Aggregate Data Exchange (mADX) IHE Profile enables interoperable public health reporting of aggregate health data



FHIR Content (Resources, ValueSets, etc.)	FMM Level
Measure	2
MeasureReport	2

Retrieve Aggregate Report Definition [QRPH-59]



Challenges Faced

- mADX is not very helpful in the current form.
- How do we uniquely identify a patient across all data sources?
- Identifying source of data dynamically - Challenge is to know which source contains data for a given FHIR query
- How to handle sort for an aggregated FHIR response?
- How to restrict number of resources when we have `_count` as search parameter in case of aggregated queries?
- How to handle pagination for an aggregated FHIR query?
- How to aggregate operation outcomes from some sources and successful responses from other sources?
- Trade off - FHIR compliance vs Performance

Challenges Faced.....Contd...

- Distributed Writes: Example: Complexity in updating patient's demographics across systems when updated in a given user interface.
- Difficult to get patient's consent to access clinical data across health systems with the enforcement of stringent rules
- Real time updates could be happening at data sites. Challenge is to know how the consumers could be notified in real time.
- Handling aggregation in case of different FHIR versions for different FHIR end points.

Conclusion

Using a FHIR Aggregator, FHIR consumer is abstracted from all complexities, configurations needed for aggregating data from different data sources.

It simplifies workflows by providing a single point of access to legacy data spread across multiple clinical systems.

It provides access to unified patient records to improve clinical decision-making.

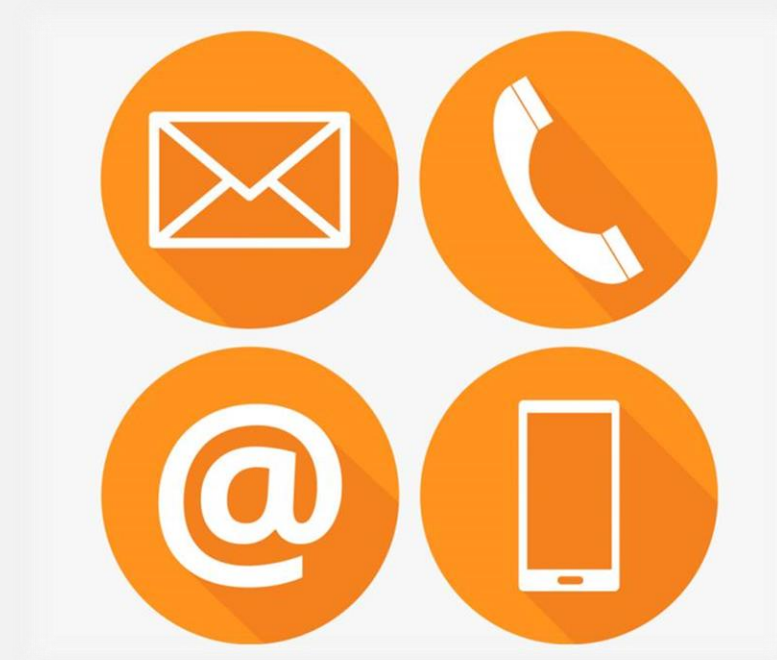


References

- https://www.ihe.net/uploadedFiles/Documents/QRPH/IHE_QRPH_Supppl_mADX.pdf

Contact

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Q & A

