

Preparation phase

1. Identify desirable characteristics

Survey the use cases of DT across multi-disciplines, especially for those which adopt many models. Gather recurring integration and orchestration remarks, whether they are just encountered or solved.



2. Define requirements and KPIs

From the characteristics, transform them to requirements, such that they are tailored to each service in the DT domain. The KPIs are created to measure the effectiveness of DT for meeting the requirements



3. Compare the frameworks

Compare the candidate frameworks. Identify their strengths and deficiencies. The comparisons made at this stage are mainly static, meaning they are drawn from the descriptions in documentations, specification sheets, etc.



4. Determine service priority

Decide which of the services to be implemented firstly. The chosen one shall be simple to develop, but also complete in term of reflecting the integration and orchestration characteristics.

Implementation phase

5. Implement the first chosen service

Implement this service in all three candidate frameworks.



6. Answer to RQ3

Obtain results from step 5, then determine which is the more suitable framework to develop the remaining parts of the DT.



7. Implement the other three services

Implement the rest of the services with the framework which is decided in step 6.



8. Answer to RQ1

Find out what is the key ingredients of integration and orchestration when developing the services of DT.



9. Answer to RQ2

Generalize the findings in step 8. Extract what can be applied in a broader context.