



Engineering Next-Gen Technology Solutions

WS02 Solution Architecture
DRAFT – Findings &
Recommendations

29 June 2021

WE MANAGE KNOWLEDGE, WITH YOU



SCOPE OF WSO2 QA DELIVERABLES FROM LINK/KULANA

Link/Kulana will be providing QA (Quality Assurance) – in compliance with ICC on the following only:

- a. Implementation Team – Part 1; support CBG team on validation of supplier services (WSO2 Services Validation Document)
 - Provide feedback on the HLD / Solution Architecture, LLD (Low Level Design) and TRS (Test Requirement Specification)
 - Compliance to the reference architecture check
- b. Platform Installation – support CBG team on validation and testing of WSO2 (WSO2 Installation Validation Document)
 - Provide feedback on the Infrastructure and Platform Design Specification document – **1st part/draft completed per draft document received from CBG/DeArx.[Received 16th June] Awaiting Final Infrastructure and Platform Design Specification document from CBG/DeArx.**
 - Environment verification: high availability, recovery, fault tolerance, etc...
 - The goal of the validation itself is not to certify the installation performed by WSO2, but to verify the behaviour in the presence of anomalies. This means testing high availability, recovery in the presence of server failures, load balancing, etc.
- c. Validation of DevOps setup from DeArx (Confirmation from CBG if Azure DevOps will be utilised)

Assumptions:

- We assume that WSO2/DeArx professional services will complete all related design documentations and install the environments
- Availability of customer stakeholders for decision making
- Support from development, DevOps and infrastructure teams

FINDINGS & RECOMMENDATIONS FROM WS02 SOLUTION ARCHITECTURE DOCUMENT

1. With the document titled “Solution Architecture”, an expectation was to see more of a listing of the services to be deployed; instead the headline reads Architecture requirements – is this a “Requirements Document”, copy of CBG’s Business Requirements? Also, the expectation in a “Solution Architecture” document is to see a logical architecture diagram, a detailed description of the various services enumerated and how they will align with the Architecture from the vendor (DeArx) .
 - a. **Note:** There is a component diagram in page 27 which does not represent any of the 19 services requested in page 12.
2. CBG Reference Architecture includes a Common Data Model definition; none of that is detailed in this document; no mention of what those common data model objects are or how they will be defined.
 - a. **Note:** there is a small definition of the Common Data Model in page 15; nothing stating CBG’s adaptation of it.

FINDINGS & RECOMMENDATIONS FROM WS02 SOLUTION ARCHITECTURE DOCUMENT

3. **3.1 In scope** points listed in this section are not detailed or present in the “Solution Architecture” document. The most important point (*# 3. Development and deployment of ATM services with integration into the DevOps process*), in our opinion, should be the main focus of this subject but it is not present.

a. From our perspective, the document is lacking detailed descriptions of the following solutions and how they will be provided:

- Definition of the Solution domains, for instance: Utilities, Customer Care, Transfers and Balances
- Definition of the Canonical Model
- Definition of the Reference Architecture Considerations and Compliance, including components for proxy, business logic, business process, data services and connectivity
- Definition of the Functional Specification, including the definition of the Use Cases, use cases diagrams and detailed sequence diagrams
- Definition of the High Level components with a detailed list of components to be reused, updated and created

FINDINGS & RECOMMENDATIONS FROM WS02 SOLUTION ARCHITECTURE DOCUMENT

4. **3.2 Out of scope** – What does “standby functionality” mean?
5. **Pages 11 to 13** are copy and paste from CBG’s Business Requirement Document (BRD) – what and where is the actual solution architecture to this?
6. **“ARCHITECTURE PRINCIPLES” chapter** – technically, this should be part of a different document, there is reference made to architecture document, but again, this is incomplete. There is no explanation or a solution design to the reference architecture.
 - a. If DeArx is not or will not be following the reference architecture from CBG, that should clearly be stated, with DeArx stating which reference architecture is going to be followed in more detail.
7. **“TARGET SOLUTION ARCHITECTURE APPROACH”** Pages 24 to 26 is not aligned or referenced to CBG’s reference architecture document.
 - a. Again, if DeArx is not or will not be following the reference architecture from CBG, that should clearly be stated with DeArx stating which reference architecture will be followed.
 - b. Have the CBG Reference Architecture been shared with DeArx?

FINDINGS & RECOMMENDATIONS FROM WS02 SOLUTION ARCHITECTURE DOCUMENT

8. **“TARGET SOLUTION BUILDING BLOCKS – COMPONENT DIAGRAM”, page 27** - the component diagram in this page does not clearly represent any specific service from the 19 services needed to be developed. The document does not clearly state how these blocks will interact with each other.
9. **Pages 28 to 30** – there is no details on what will be implemented in each one of the 19 services requested by CBG.
10. **“TARGET SOLUTION BUILDING BLOCKS – SOA RA ALIGNMENT”, page 32** - the segregation by component represented in this diagram is not clear, lacking specific details and does not follow CBG’s reference architecture.
11. **“Validating JWT’s Basic Flow”, page 35** - this is an “out of the box” functionality from API Manager and does not need any development other than configuration. Hence, this is not a solution or service being offered by DeArx. It is an “out of the box” functionality.

FINDINGS & RECOMMENDATIONS FROM WS02 SOLUTION ARCHITECTURE DOCUMENT

- 12.** “TARGET PLATFORM BUILDING BLOCKS – CONCEPTUAL VIEW”, page 37 to 42 - describes the infrastructure specification, which was already delivered in the infrastructure specification document, there are no new details added here, but the expectation is that, there should be.
- 13.** Pages 27 to 30 – are the only pages that attempts to detail the solution architecture, but severely lacks all the information needed to precisely and explicitly state what will be implemented and how it will be implemented; hence lacking a “solution architecture”.

Note: Link/Kulana shared the HLD template and an example with CBG in November 2020, which DeArx can use to document the High Level Solution Architecture.

Conclusion, in our opinion, the document presented as a “Solution Architecture” document is wholly lacking a full solution in reference to CBG’s Business Requirements.