












































Architecture Concerns

This page aims to bring an architectural quality attribute evaluation over the solutions vendor alternatives.

Evaluation Matrix - Architectural Quality Attributes

| 1 | Alternative /Evaluation Vector | agilab.com | alchemy.com | revvity.com |
|---|--------------------------------|--|---|---|
| 2 | Technical Debts | Paid | | |
| | | Added | | |
| 3 | Major Work Block | | | |
| 4 | Scalability |   Architecture relies on a monolithic approach atop Oracle platform (database), what in one hand side can bring the best performance, in general; in another hand, can become complex and expensive to scale. |    By leveraging microservice architecture in a cloud native platform, scalability can be achieved more effectively |    By leveraging microservice and event-driven architecture in a cloud native platform, scalability can be achieved more effectively |
| 5 | Resource - Cost Efficiency |   Since the architecture is based on a monolithic approach atop Oracle platform (database), mostly the Cost Efficiency should take into account the licensing model of Oracle. What can become not efficient if, for instance, the most demanding compute power feature is not the most relevant overall. |    By leveraging SaaS components in the most of infrastructure, the Cost Efficiency can achieved more effectively - fine-tuning each application context capacity given the specific demand on it. |    By leveraging SaaS components in the most of infrastructure, the Cost Efficiency can achieved more effectively - fine-tuning each application context capacity given the specific demand on it. |
| 6 | Deployability |   Although the architecture is based on a monolithic approach atop Oracle platform (database), which means low level of automation in terms of IaC, the low number of components alleviates deployment complexity. |    By leveraging SaaS components in the most of infrastructure, the highest degree of deployability can be achieved at platform level via Infrastructure as Code (IaC), across multiple zones and in a well defined capacity. |    By leveraging SaaS components in the most of infrastructure, the highest degree of deployability can be achieved at platform level via Infrastructure as Code (IaC), across multiple zones and in a well defined capacity. |
| 7 | Legal /Compliance |    The solution operates in a hybrid IaaS/SaaS model where the data in rest can be better managed from the legal/region constraints perspective. |   Since the solution operates mainly in SaaS mode, some concerns from procurement and regional/legal perspectives can potentially create more complexity for deployment and cost efficiency quality attributes. |   Since the solution operates mainly in SaaS mode, some concerns from procurement and regional/legal perspectives can potentially create more complexity for deployment and cost efficiency quality attributes. |
| 8 | Interoperability |   The solution provides Rest API interface for transactional and batch data. Despite that, the monolithic architecture atop a centralized database (Oracle) brings concerns in terms of isolation when consumers perform intense retrieval operations over the same resource artifact. |    The solution is API-First oriented for transactional and batch data layers. From that perspective, interfaces are well organized into a catalog so interfaces can be leveraged easily for integration purposes. |    The solution is API-First oriented for transactional and batch data layers. From that perspective, interfaces are well organized into a catalog so interfaces can be leveraged easily for integration purposes. |
| 9 | User Experience |   Although leveraging Responsive web design, being backed by a monolithic architecture, the overall resiliency and side effects for Responsiveness can be negatively impacted. |   By leveraging Responsive web design and being backed by a scalable/resilient microservice architecture the User Experience can be achieve at the highest level possible. |    UI identity is close to the status-quo solution and it has a great experience for administrative operations. Also by leveraging Responsive web design and being backed by a scalable/resilient microservice architecture the User Experience can be achieve at the highest level possible. |

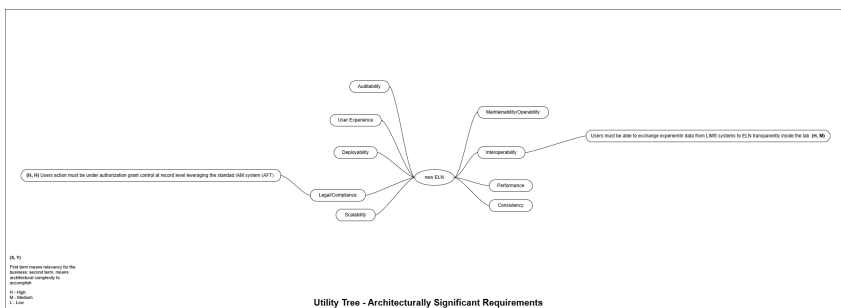
| | | | | |
|----|-------------------------------------|---|--|---|
| 10 | Maintainability /Operability | <p>✓✓</p> <p>Since the solution operates in a hybrid IaaS /SaaS model also leverages monolithic architecture atop Oracle platform (database), without high level of automation, operate and maintaining the platform can potentially demand more effort.</p> | <p>✓✓✓</p> <p>By leveraging SaaS components in the most of infrastructure, operate and maintaining can be facilitated with lower cost.</p> | <p>✓✓✓</p> <p>By leveraging SaaS components in the most of infrastructure, operate and maintaining can be facilitated with lower cost.</p> |
| 11 | Extensibility | <p>✓✓✓</p> <p>Change management is facilitated for customization on existing features, also to onboard new features given the API available.</p> | <p>✓✓✓</p> <p>Since the solution is API-First oriented for transactional and batch data layers, onboarding new feature by extending status-quo can be speedup.</p> | <p>✓✓✓</p> <p>Since the solution is API-First oriented for transactional and batch data layers, onboarding new feature by extending status-quo can be speedup.</p> |
| 12 | Auditability | <p>✓✓</p> <p>Data actions tracked : inserts, updates, deletions Configuration actions tracked : all Access tracked : yes (with corresponding outcomes) Exportable : CSV Comparable : yes (but just two lines at a time) Customizable : can decide what content to track</p> <p>AgiLab granular structure of the information complexities the accessibility and comprehension of the information.</p> | <p>✓✓</p> <p>Data actions tracked : data access, data modification, user activities, transactions, data changes Configuration actions tracked : No ? Access tracked : need to ask vendor for stat Exportable : N/A, can only see "history" of each individual item (no searchable recap view) Comparable : N/A Customizable : not possible</p> <p>Alchemy's item level visualization complexities the accessibility and comprehension of the information.</p> | <p>✓✓✓</p> <p>Data actions tracked : can filter on action or resource types, or specific resources Configuration actions tracked : template and security policy changes on configuration portal also tracked Access tracked : yes (via "action=access") Exportable : CSV Comparable : yes, with previous version Customizable : fixed content, but extensive filters allow flexibility. Can see info at various different levels (user, resource type etc.)</p> <p>Revtiv has a dedicated section for the audit trail, offering powerful filtering and comparison capabilities for a quick analysis.</p> |

- High: ✓✓✓
- Medium: ✓✓
- Low: ✓

Utility Tree - Architecturally Significant Requirement

In the Utility Tree the use cases can be evaluated from the business relevancy versus the architectural complexity reasoning to accomplish the benefit. Here the place to organize the use cases given its classification from the Architectural Quality Attribute Perspective.

(WIP)



References

[LIMS](#)