Less is More: Utilizing Ballerina to Architect a Cloud Data Platform

Integrating disparate HR systems is a crucial challenge that enterprises face. VHR's Cloud Data Platform, powered by Ballerina, provides a multi-tenant, cloud-native solution to normalize data and deliver consolidated insights to stakeholders.

Bennett Reddin

Founder/CTO

VisualizeHR

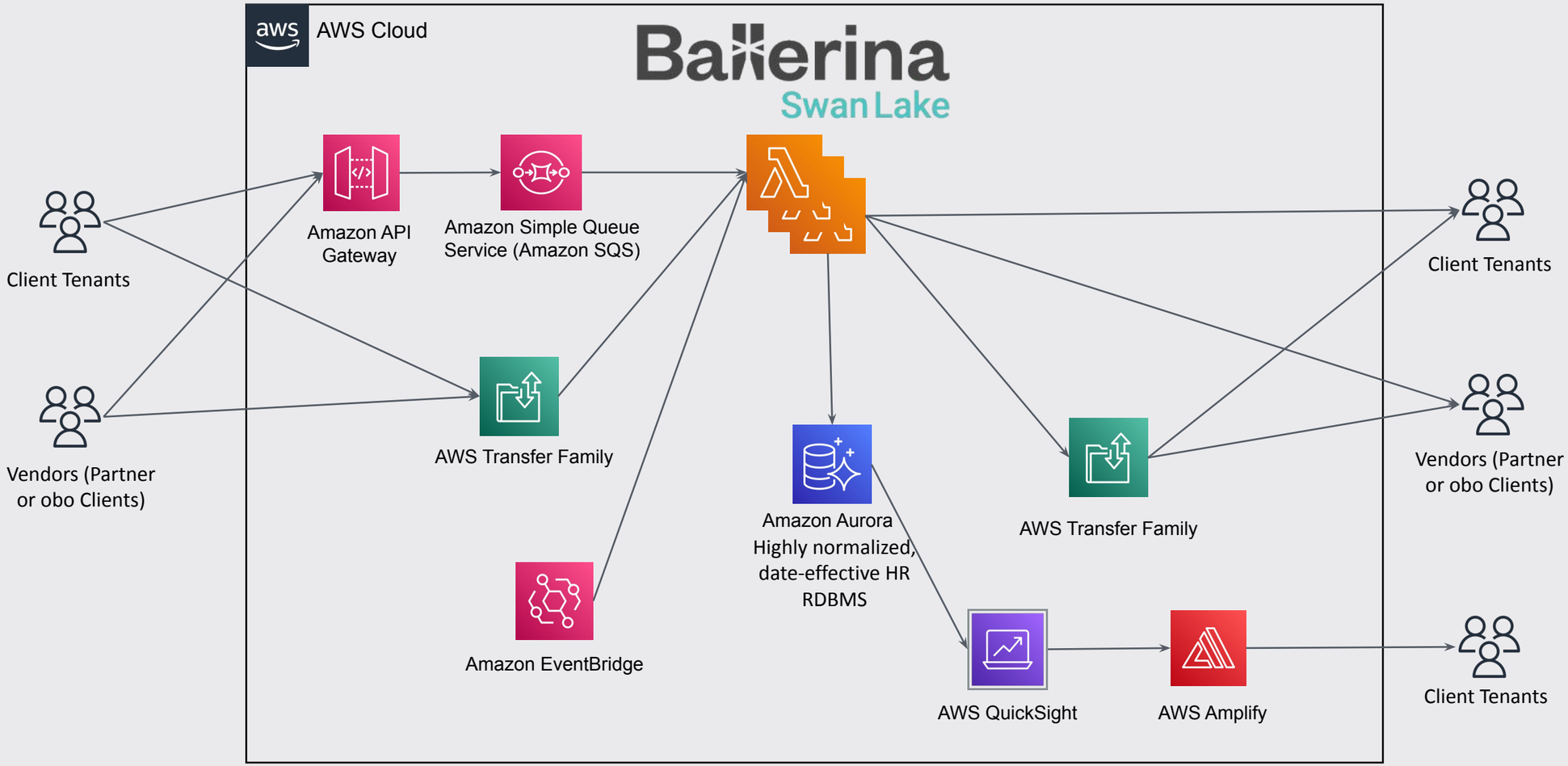


Journey to an HR Cloud Data Platform

- Background in architecture, development, and deployment of Enterprise Resource Planning Systems
- ERP data sets and functionality should be fertile ground to enable strategic planning with people data at the core
- Integration became the clear obstacle to achieving a consolidated dataset from which to drive strategic decisions

- Integration is largely a solved problem now
- Industry, both application vendors and software vendors, have learned from the past
- SMB and ERP products are not released without some approachable API
- The pivot is back to data acquisition, harmonization, and rendering

Generalized Functional Architecture



Programming Language Contenders

Rich History with Java

- Developed ERP HR and Payroll systems in Java
- Multiple projects for Connectors and Mediators in Enterprise Integrator

Challenges with Java

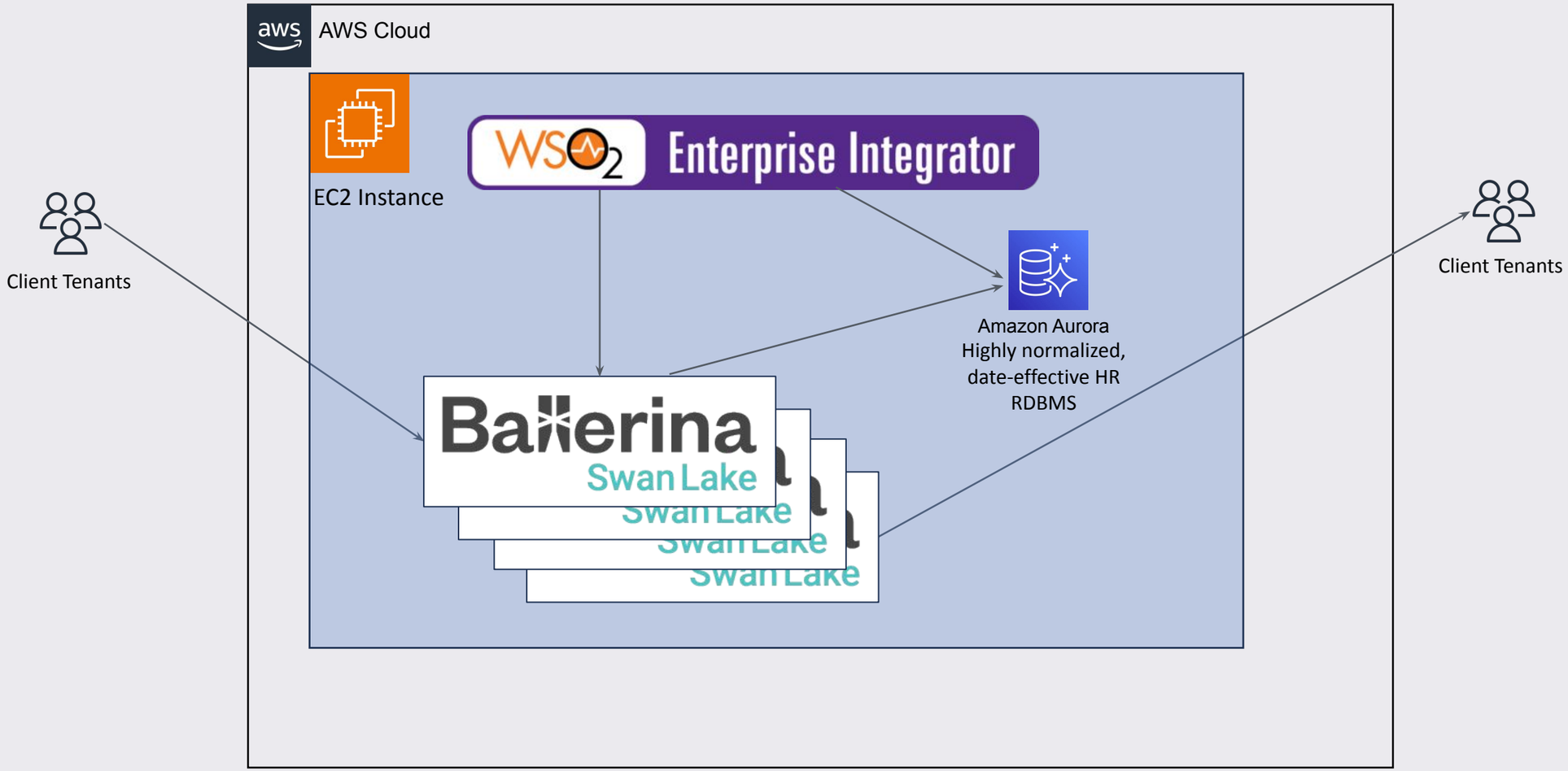
- Versions
- Security updates
- Libraries
- Did I mention Versions?

Attraction of Ballerina

- "Batteries Included"
- Networking Strength
- Code to Cloud
- Available Modules

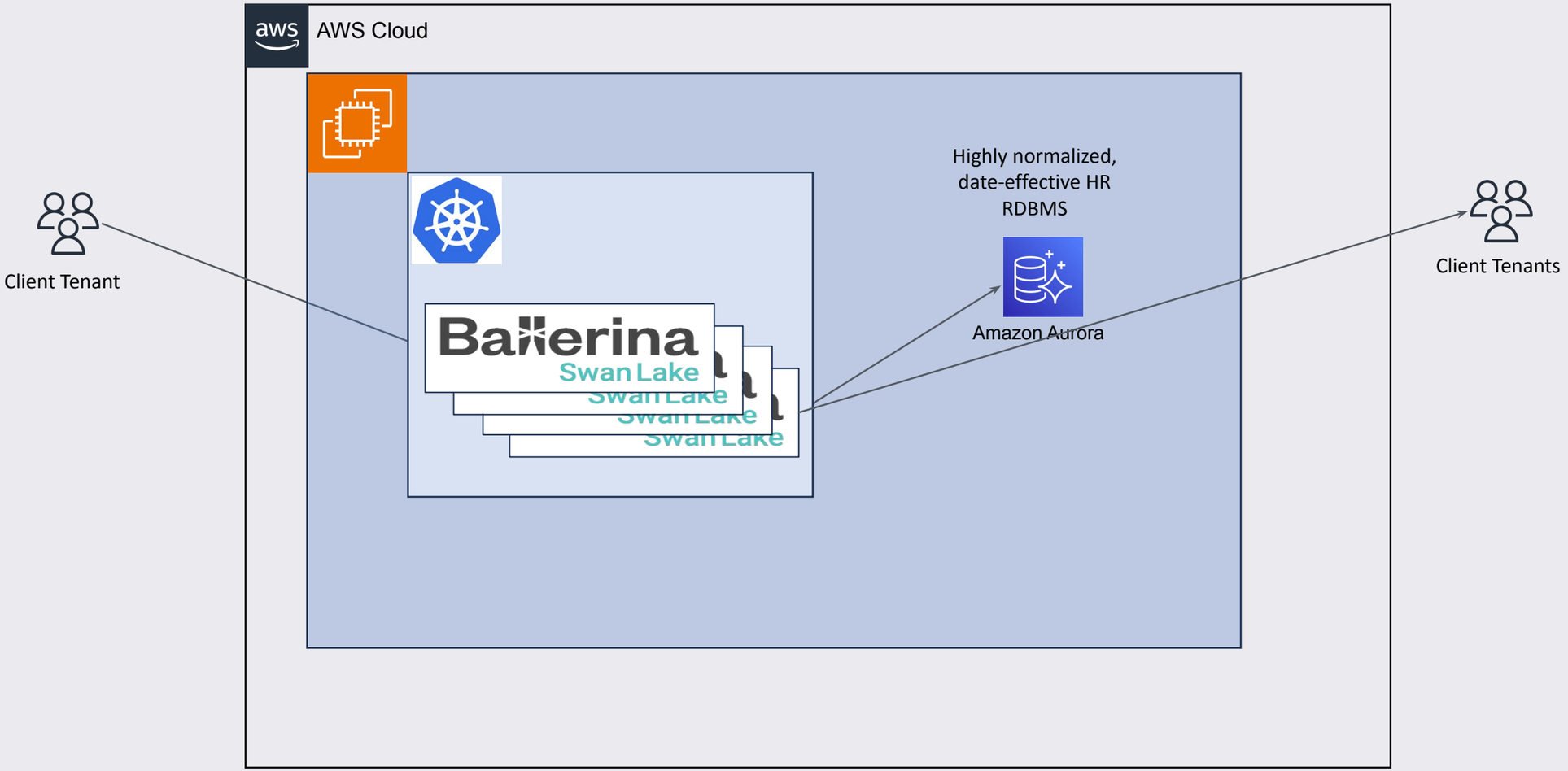
3 Years of Architectural Evolution in 2 Minutes

Architecture – Generation 1



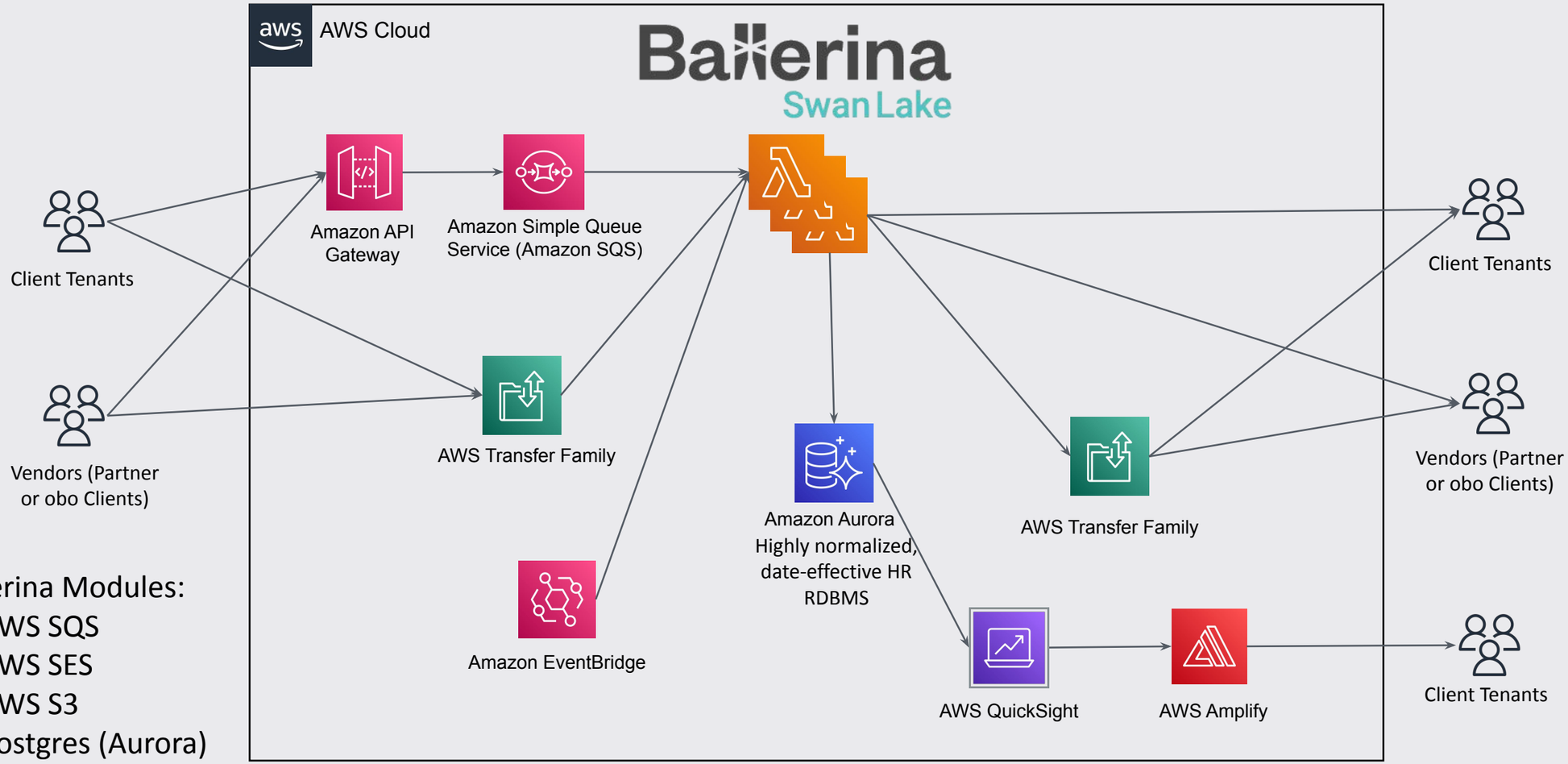
3 Years of Architectural Evolution in 2 Minutes

Architecture – Generation 2 (Code to Cloud)



3 Years of Architectural Evolution in 2 Minutes

Generalized Functional Architecture



Ballerina Modules:

- AWS SQS
- AWS SES
- AWS S3
- Postgres (Aurora)
- SQL

Ballerina's Role in the CDP

1

Integration

Ballerina's native integration capabilities seamlessly connect diverse HR systems, simplifying the data ingestion process.

2

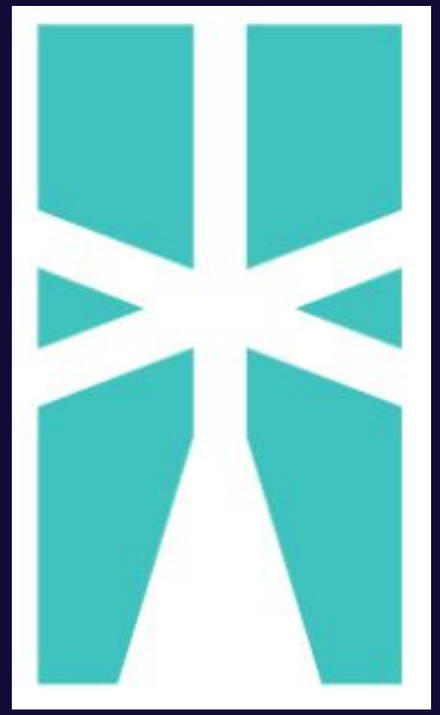
Transformation

Ballerina's powerful data transformation features normalize the disparate data models, preparing the data for analysis.

3

Orchestration

Amazon Web Service’s event-driven infrastructure, coupled with Ballerina’s serverless deployment orchestrates the entire data integration and processing pipeline.



Next Evolutionary Steps with

erina

1

2

3

HR System Integration Maturity

Map

Using Ballerina's Architecture View, we are rendering an image of various HR systems in use within a client's ecology, how connected those are, and what gaps need work. This utilizes the Ballerina ChatGPT



WSO2's Partnership in the CDP's Success



Fanatical Support

From Discord to StackOverflow, assistance has always been timely and educational – tremendous value in just browsing Discord.



Continuous Education

Webinars and Meetups and Zooms occur on a continual basis, allowing expertise to be passed on to the community.



Top-down Engagement

Not just shout-outs to the Maryam's and Sameera's who constantly support & educate, but also the CEO jumping in to facilitate success.



Innovation (nearly) On Demand

Before developing anything new, connectors, functionality, etc. it might be found already completed on Ballerina Central

Conclusion

And

Questions?