20TH ANNIVERSARY EDITION

WSO2CON ASIA

PLATFORMLESS MODERNIZATION

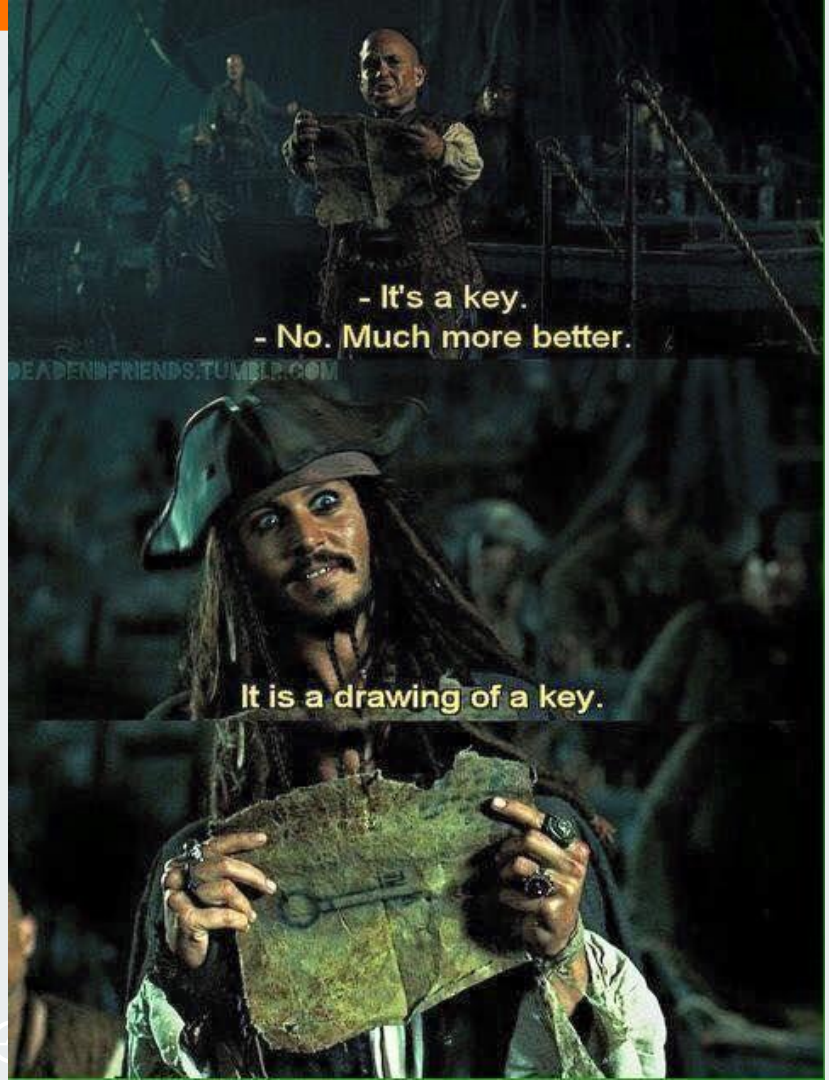
# Vertical thinking in a Horizontal World

## Vertical Solutions Update and the Road Ahead

**Mifan** Careem

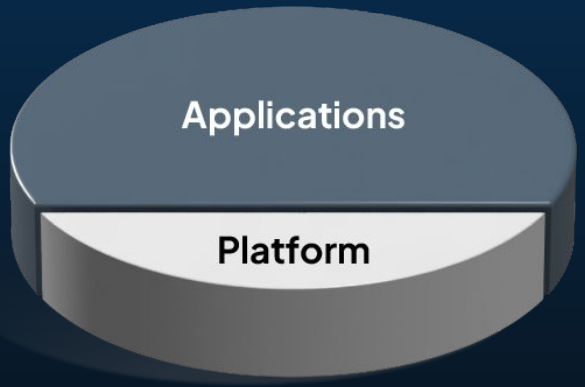
Chief Solutions Officer

WSO2




Good software engineering is about using the right **abstractions**

# Becoming platformless is freedom to create




Your customers

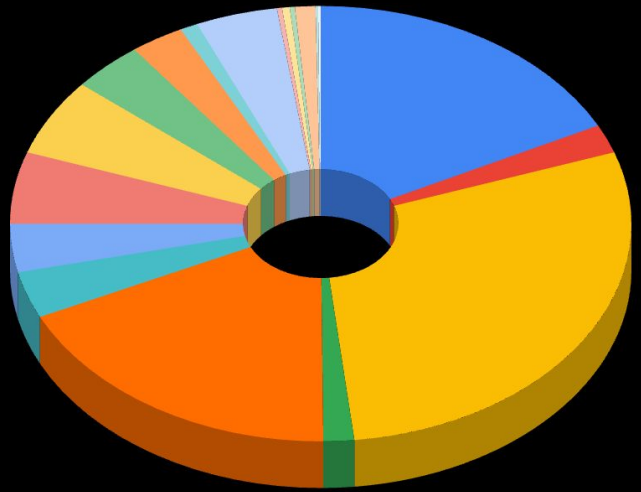
Business Abstractions

Platform

Technology Abstractions

**700+** DIRECT CUSTOMERS | **5000+** OEM CUSTOMERS | **25K+** OPEN SOURCE CUSTOMERS

Over **90** Countries | Over **60 trillion** Transactions | Over **1 billion** Identities




## Powering Systems of Record market leaders in

- Electronic Health Records Systems
- Medtech Systems
- Healthcare Claims Mgt. Systems
- Core Banking Systems
- Payment Services Platforms
- Education Administration Solutions
- Telco BSS

# Towards the verticalization of platformless

## Horizontal view of technology

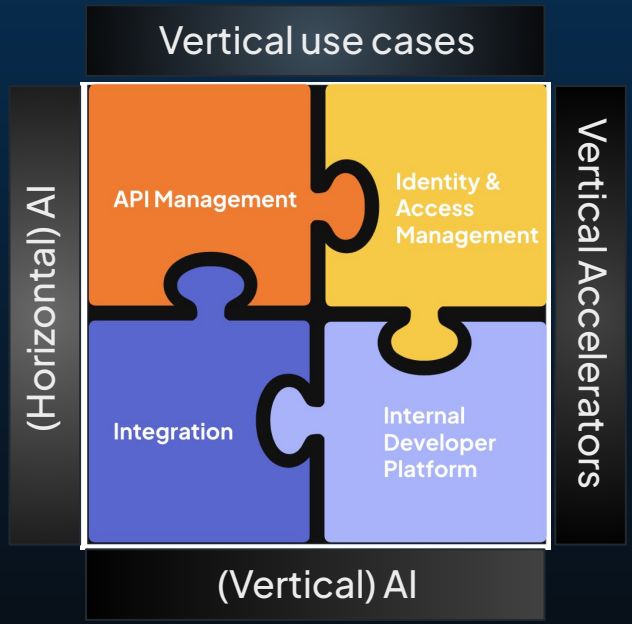
- API Gateways
- Full Life Cycle API Mgt.
- Integration
- CIAM
- Workforce IAM
- Platform Engineering
- Internal Developer Platform
- AI for Code
- Code for AI

## Vertical view of technology

- Systems of record connectors (Temenos, Guidewire, Epic,..)
- Interoperability standards (FHIR, ISO20022,..)
- Regulations and compliance (PSD2, CMS,..)
- Customer 360
- Open Data, Consumer Data Rights

- Industry use cases
- Reference architectures

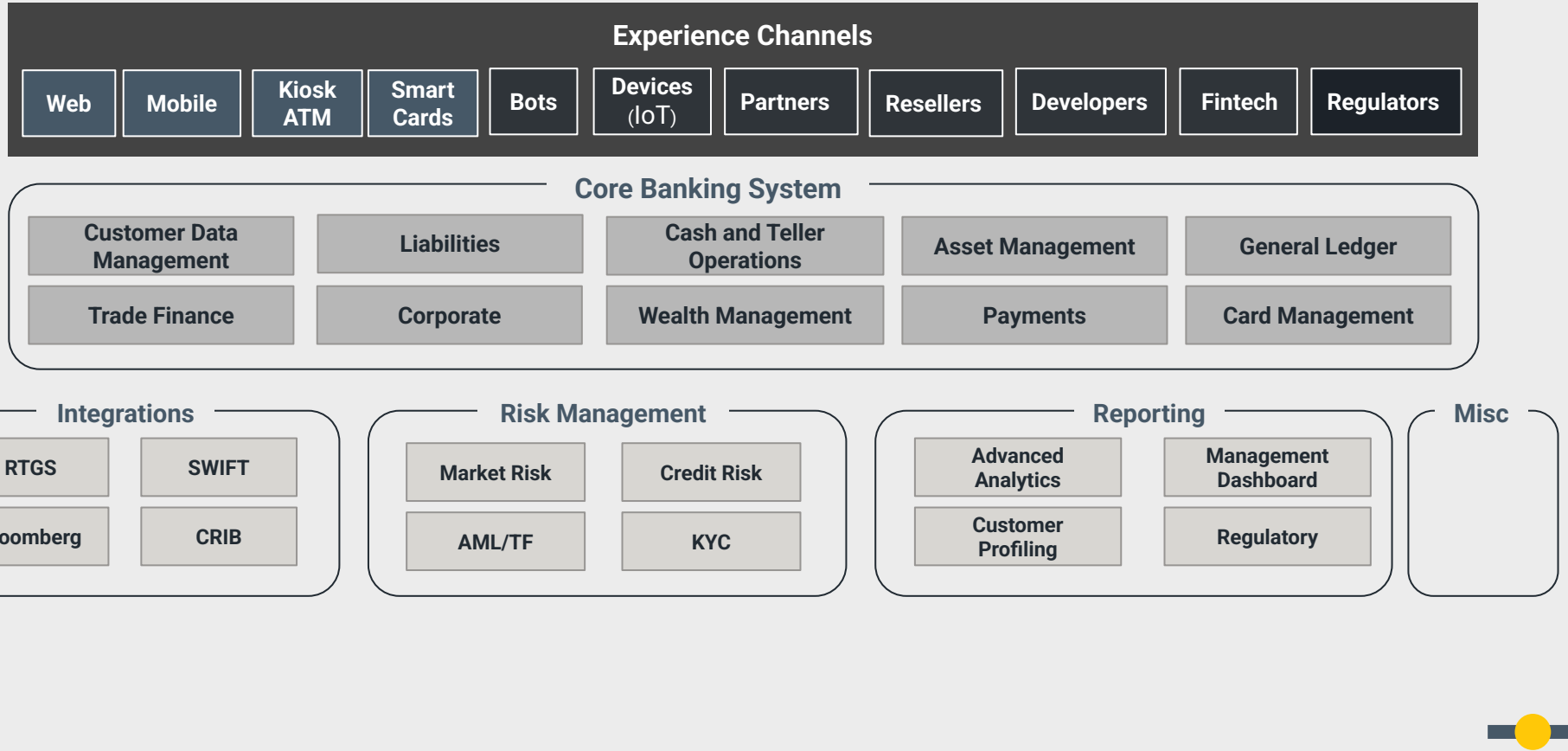
- Integrator co-pilot
- API chat
- AI powered adaptive auth
- Choreo co-pilot




- BFSI, Healthcare, Govt,...
- Reference implementations (Open Banking Berlin spec, U.S. CMS regulations)
- Connectors (Cerner, FIS, ..)
- API Specs (Patient access)
- Translators (SWIFT->ISO 20022,..)
- Protocols (HLV2,..)
- Architecture templates (Digital Govt, Healthcare SME)

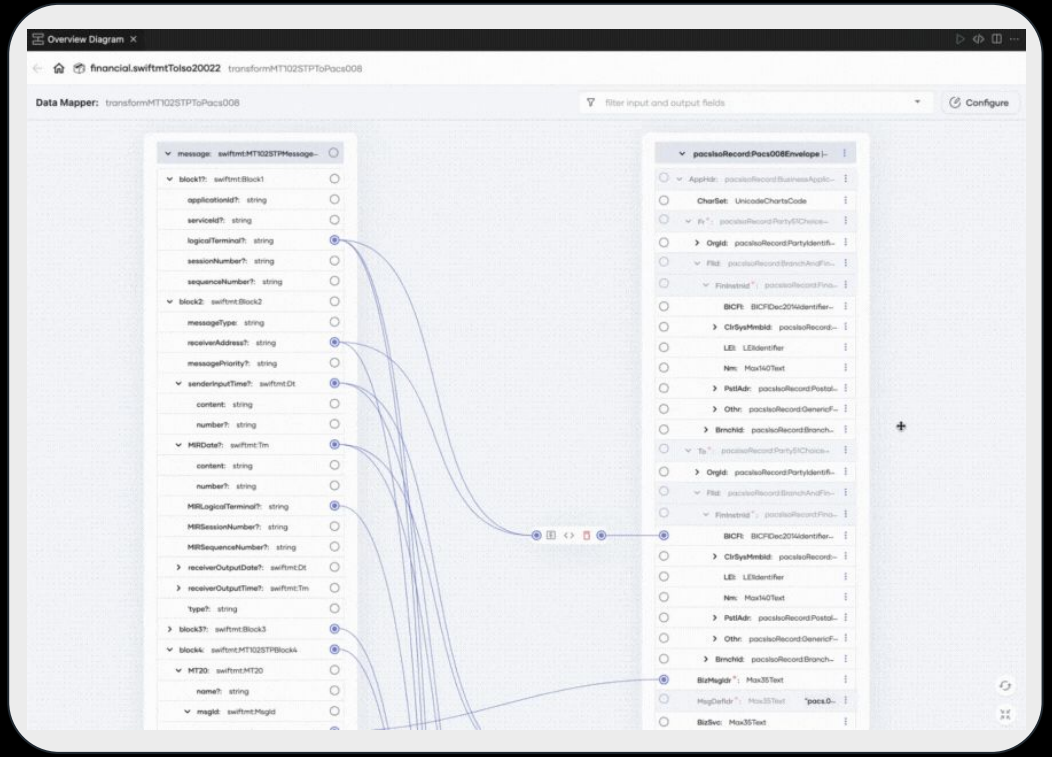
- Domain specific AI (healthcare co-pilot)

# A Bank's Technology Landscape

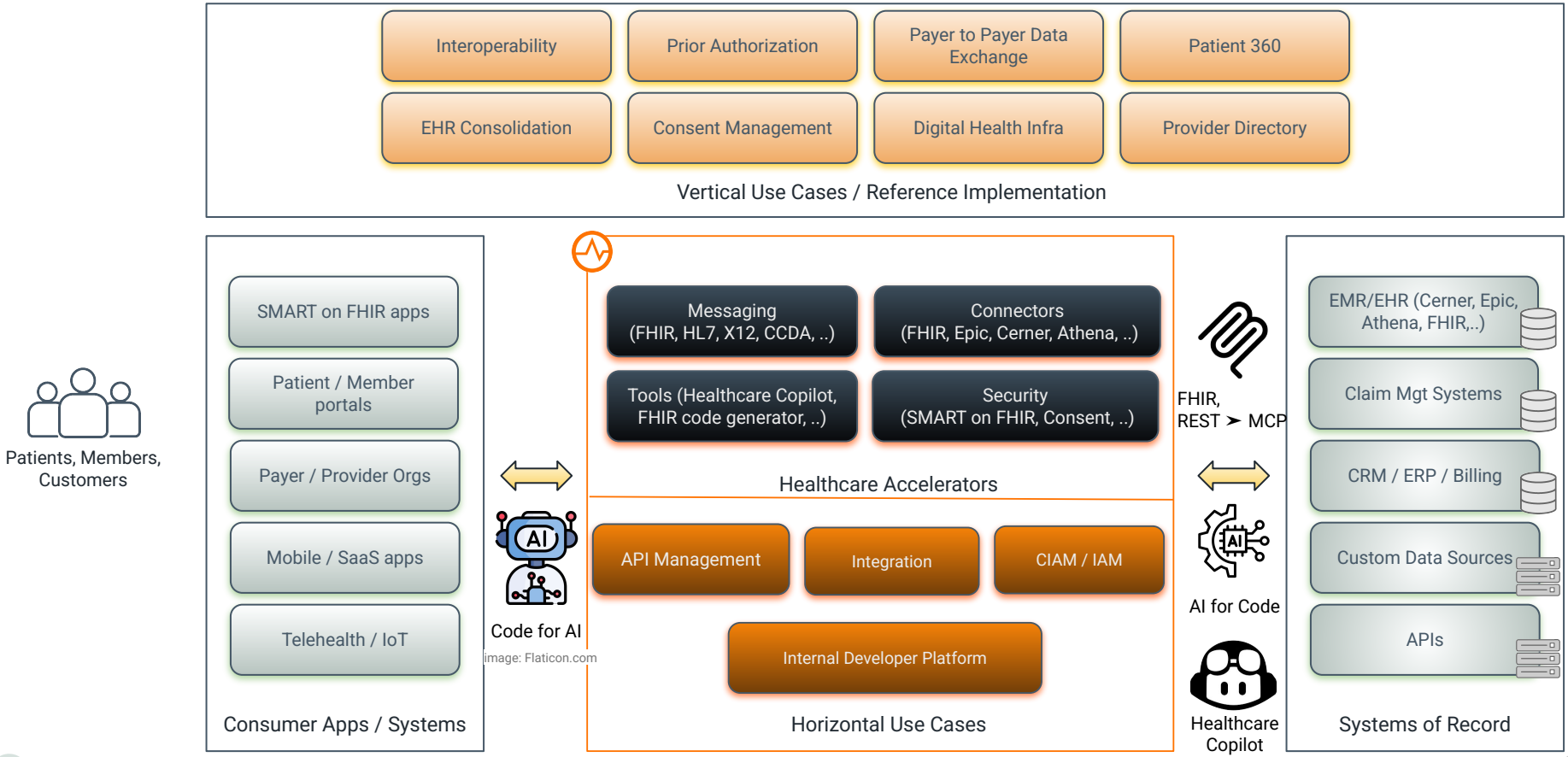


# Accelerating vertical data manipulation

- Mapping data from source to destination and vice versa takes upto ~50% of development effort
- Where vertical interop standards apply, either the source or destination format is known (e.g FHIR, ISO 20022, HL7, X12, …)

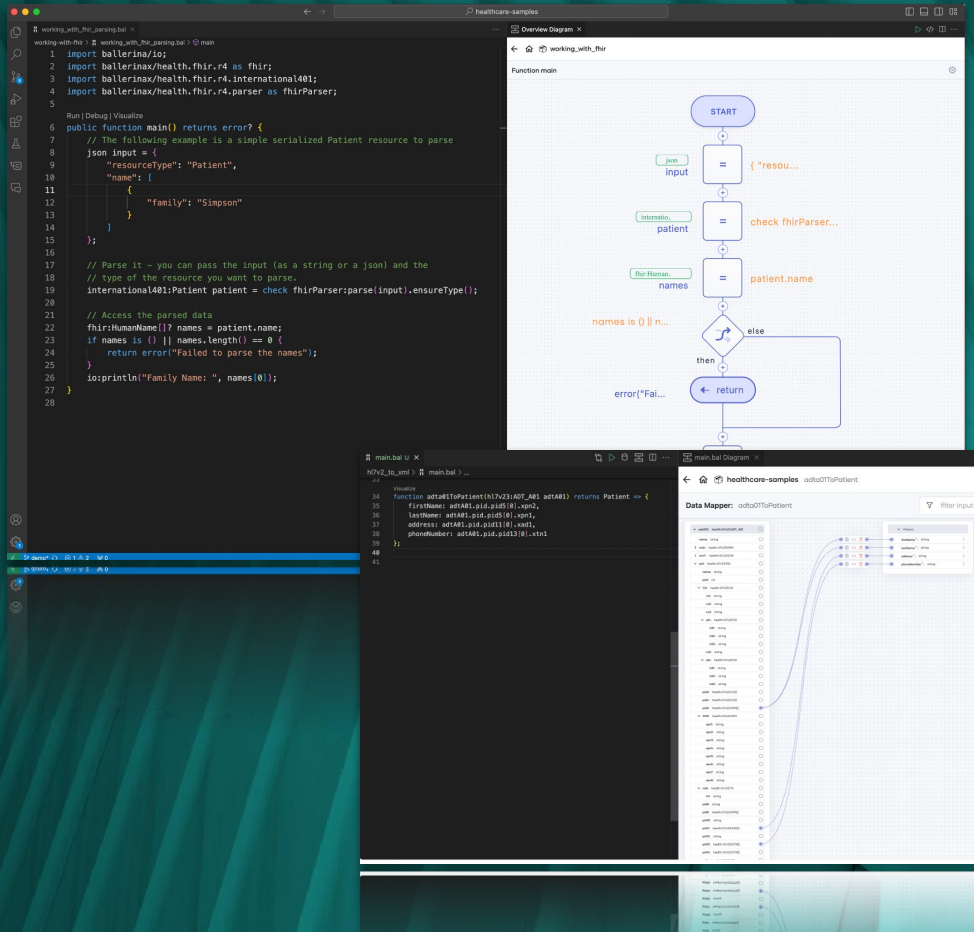


# Healthcare Interop and AppDev for Healthcare Organizations



# Ballerina - the cloud native technology for writing healthcare apps.

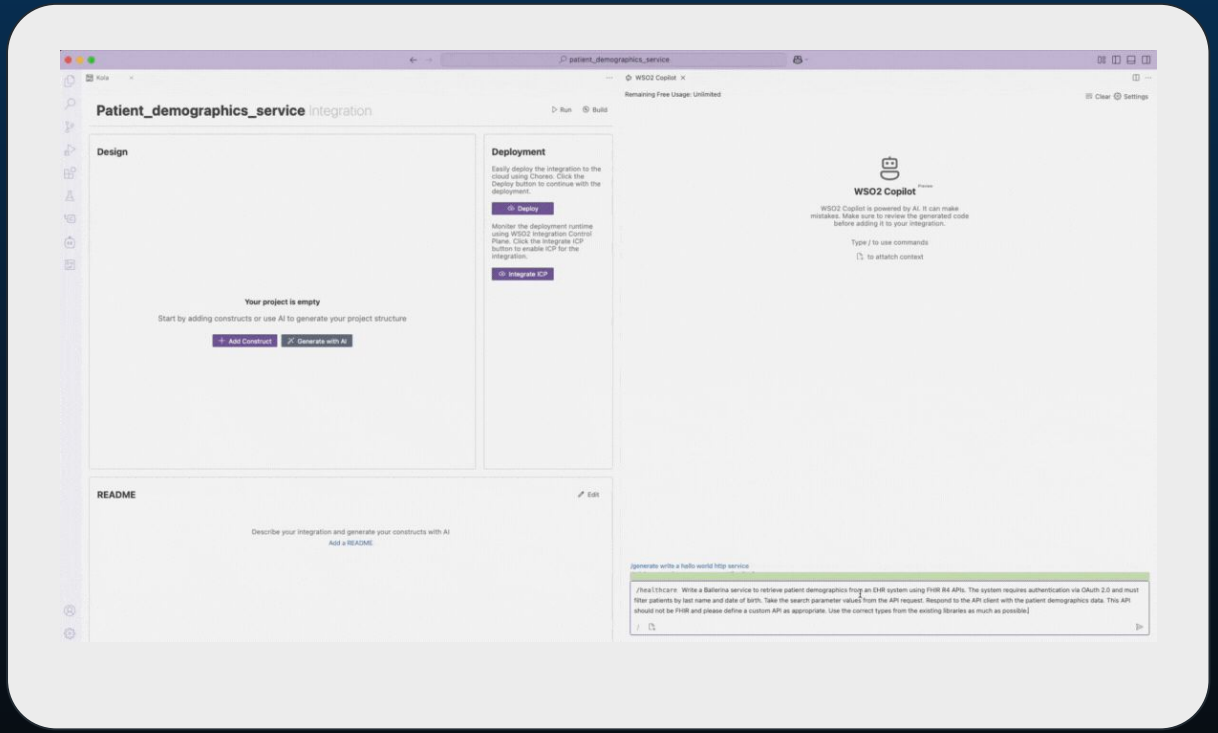
- Ballerina natively knows FHIR, HL7, X12 and the likes
- Health tooling to autogen any implementation guide
- Prebuilt connectors to known EMRs (EPIC, Cerner, Athena Health,..)
- 50-70% accelerated development of healthcare native use cases
- 70%+ accelerated development of healthcare data mapping use cases




Ballerina
Swan Lake

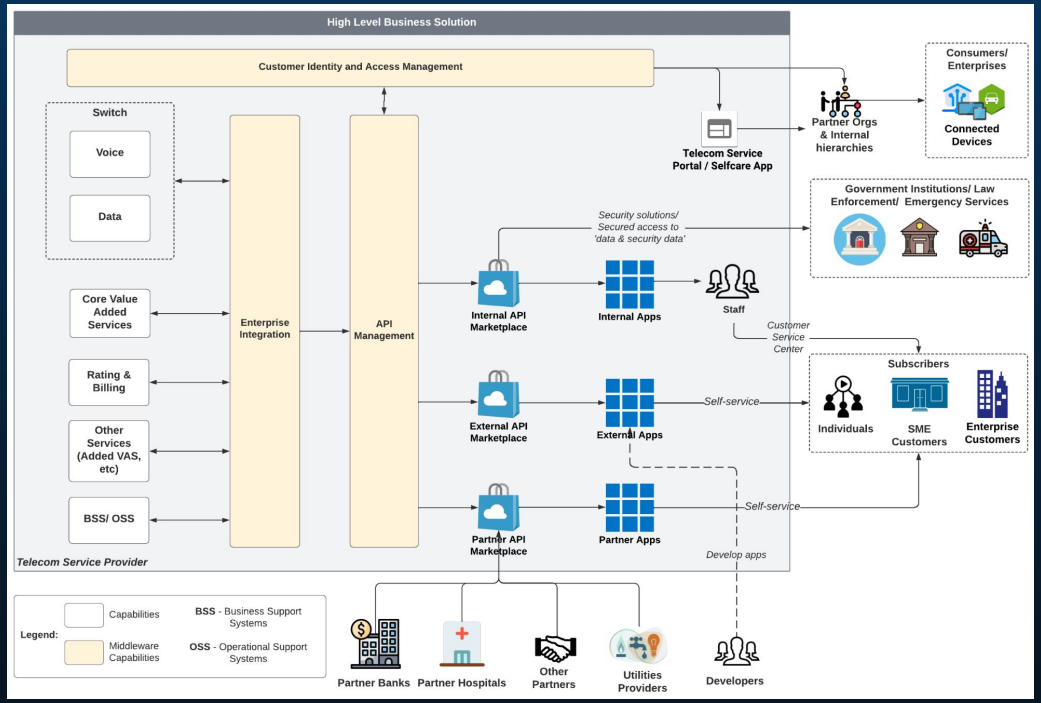
**The agents are coming!**
The vertical AI story

# AI powered, healthcare native code generation




Sample Prompt:

Write a service to retrieve patient demographics from an EHR system using FHIR R4 APIs. The system requires authentication via OAuth 2.0 and must filter patients by last name and date of birth. Take the search parameter values from the API request. Respond to the API client with the patient demographics data. This API should not be FHIR and please define a custom API as appropriate




Telco reference architecture

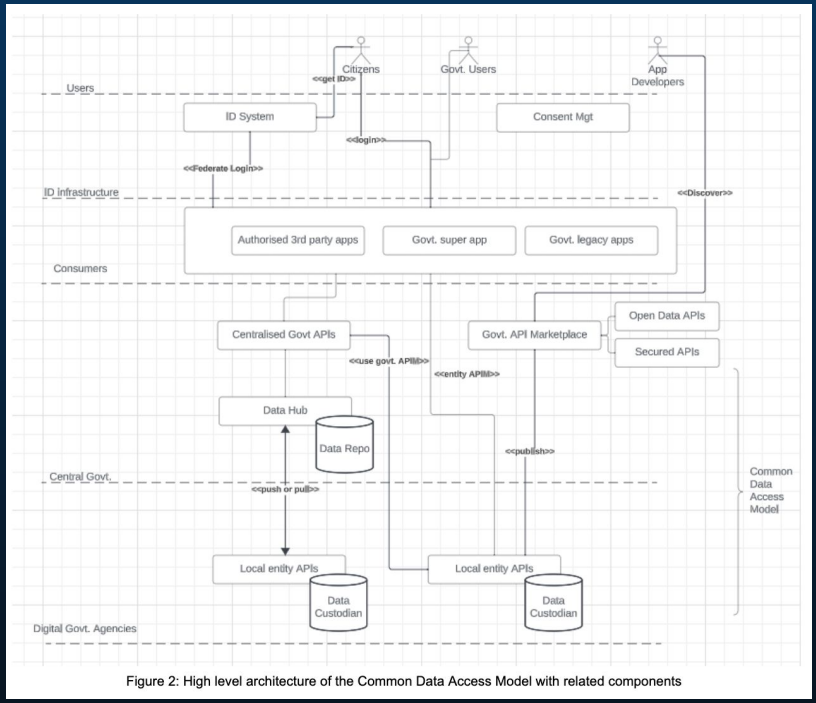
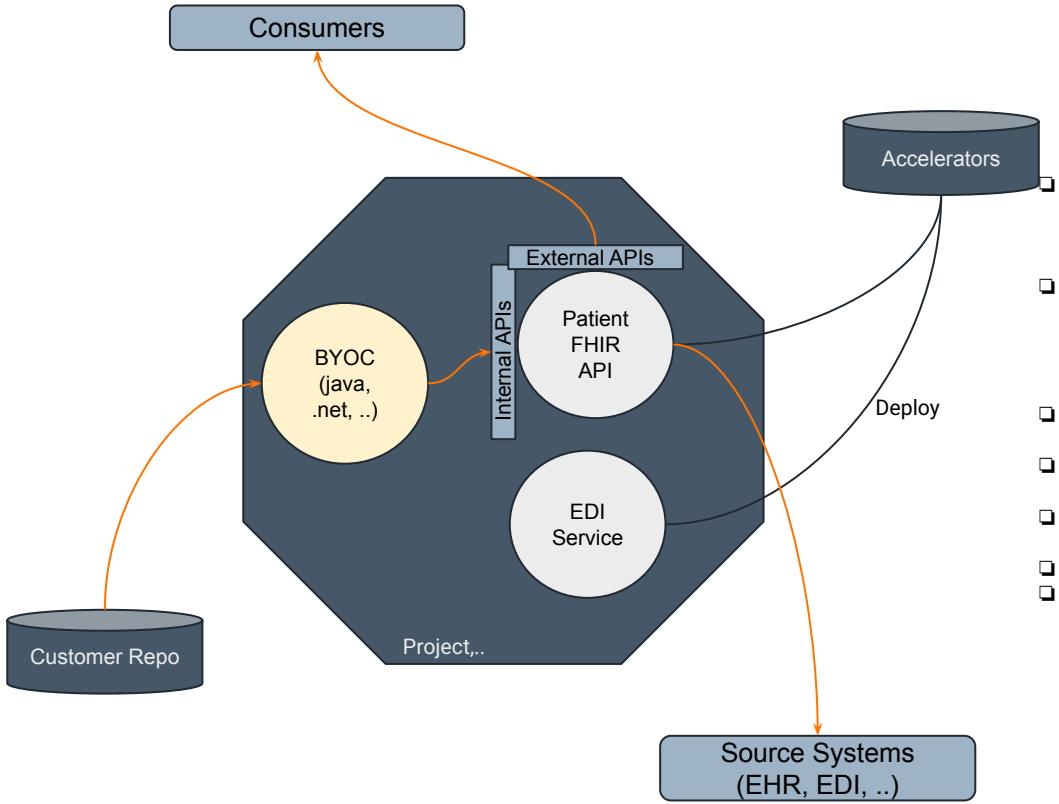



Figure 2: High level architecture of the Common Data Access Model with related components

Govt. reference architecture

# Deploy out of the box accelerators as APIs




- FHIR API Templates
  - Patient API
  - Encounter API
  - …
- Connectors
  - EPIC, Cerner,...
  - FHIR Backends
  - HL7 Backends
  - CDS Hooks
- Transformation Logic
  - HL7V2 to FHIR
- Use Case Templates
  - EPIC to FHIR API
- EDI
  - 834 X12 Processing
- SMART on FHIR
- …


Vertical Abstractions – Pre fabricated,
Reusable, Vertical Architectures

# What's next today

## Coming up

| | |
|---|---|
| 02:00 p.m.<br>(30 mins) | **Towards a Digital Government Blueprint →**<br><br>Dev Wijewardane<br>Senior Director / Field CTO, WSO2 |
| 02:30 p.m.<br>(30 mins) | **Accelerating Digital Health Innovation with WSO2 →**<br><br>Nirmal Fernando<br>Director & Head of Engineering, Solutions BU, WSO2 |

## After the break

| | |
|---|---|
| 03:30 p.m.<br>(30 mins) | **The Bank You Deserve: Engineering the Future of Finance →**<br><br>Seshika Fernando<br>Vice President & Field CTO, WSO2 |
| 04:00 p.m.<br>(30 mins) | **Vertical AI – Industry Innovation in an AI Age →**<br><br>Amjadh Ifthikar<br>Technical Lead, WSO2 |
| 04:30 p.m.<br>(30 mins) | **Customer Panel: The Modernization Playbook: Lessons from the Front Lines, Across Industries and Regions →**<br><br>Abdullah Alanazi<br>Head of IT Integration, Saudi Commission for Health Specialties (SCFHS)<br><br>Vinod Sharma<br>CTO, M-Pesa Africa<br><br>Kinley Dema<br>ICT Officer, Government Technology Agency Bhutan<br><br>(Moderator: Seshika Fernando, Vice President & Field CTO, WSO2) |

I choose a lazy person to do a hard job. Because a lazy person will find an easy way to do it.

- Bill Gates -