

20TH ANNIVERSARY EDITION

WSO2CONASIA

— PLATFORMLESS MODERNIZATION

Accelerating Digital Health Innovation with WSO2



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If Hospitals Already Get Patients, Why Bother Innovating?

Why hospitals need to innovate?



Rising Patient
Expectations



Operational Costs
are Soaring



Shortage of
Medical Staff



Compliance
and Data



Emergencies
Expose Gaps



Competition and
Reputation

How hospitals can innovate?



Digitize Patient
Journeys



Modernize Internal
Workflows



Leverage Data &
AI



Enable
Interoperability



Invest in
Cybersecurity &
Privacy

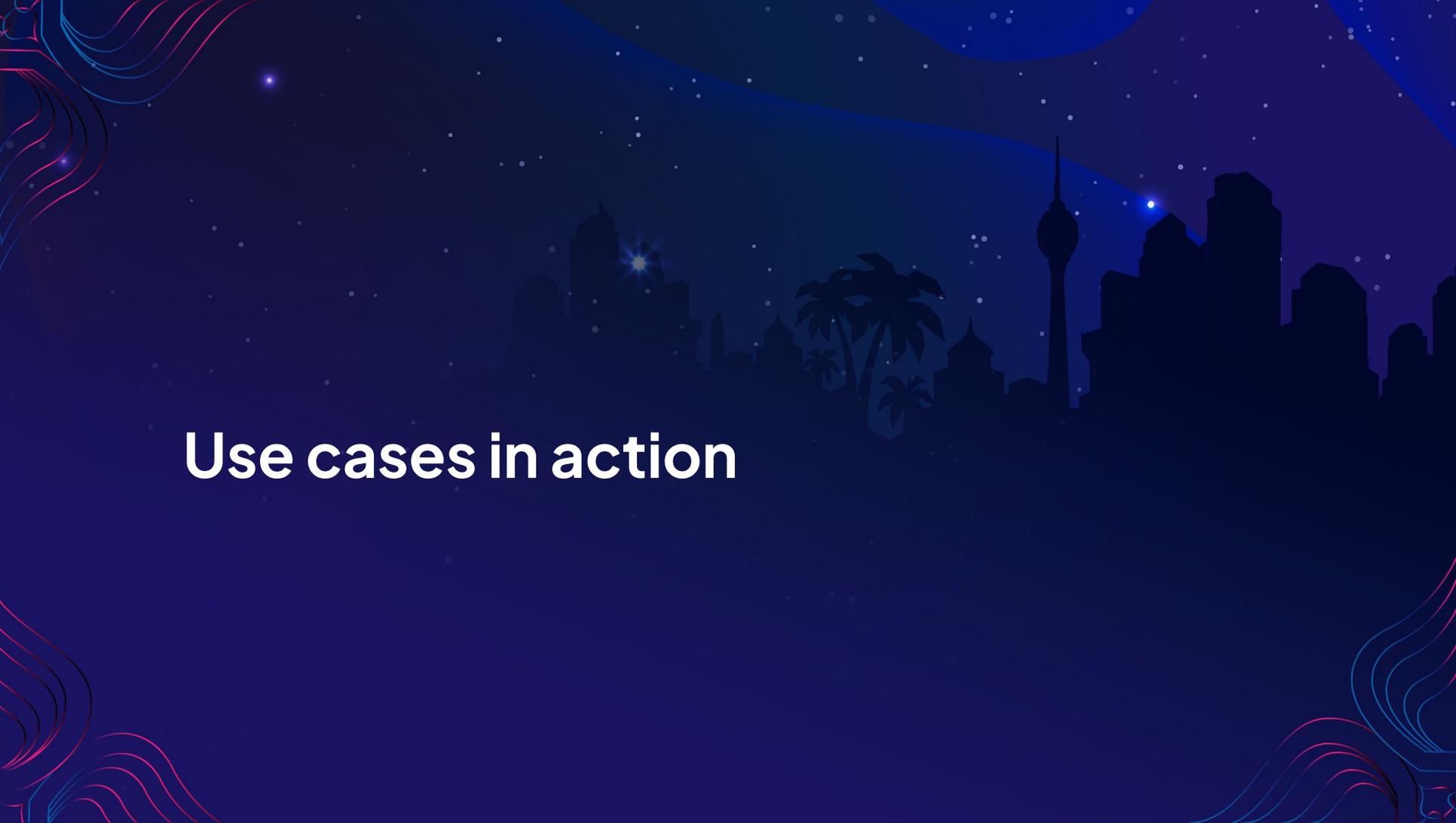


Embrace
Personalized and
Preventive Care

**Stop accepting what's broken and
start building what works.**

- Seth Godin -



The background features a dark blue gradient with a city skyline silhouette in the center. The skyline includes various buildings, palm trees, and a prominent tower with a spherical top. The sky is filled with small white stars and a few larger, brighter ones. In the top-left and bottom-right corners, there are decorative, glowing wavy lines in shades of blue and pink.

Use cases in action

Online Appointment Booking

The screenshot displays the WSO2 Integrator IDE interface for a project named "HealthCareAgent-Demo". The main workspace is divided into several sections:

- Design:** A canvas showing a flow diagram with components like "HealthCareAgent", "HttpListener", "HttpIntegratorService", and "WebhookClientDefaultConnection".
- Deployment Options:** A sidebar with radio buttons for "Deploy to Devant", "Deploy with Docker", and "Deploy on a VM".
- Integration Control Plane:** A section for monitoring the deployment runtime using WSO2 Integration Control Plane.
- Agent Chat:** A chat interface at the bottom right with a text input field containing the message: "Hi, my name is Sarah Smith. I want to reschedule an appointment I have made. Could you get me the list of my existing appointments? My patient id is: 652ba4d-76e7-4373-8555-3536feb9a506".

The top of the IDE shows the browser address bar with "HealthCareAgent-Demo" and various window management icons. The bottom status bar indicates the current environment is "WSO2" and "Ballerina 2201.12.6 (Swan Lake Update 12)".

Patient Support

The screenshot displays the WSO2 Integrator IDE interface for a project named 'bi_health_agent'. The left sidebar shows a project tree with folders for 'Entry Points', 'Listeners', 'Connections', 'Types', 'Functions', 'Data Mappers', 'Configurations', and 'Local Connectors'. The main workspace is titled 'bi_health_agent Integration' and shows a design diagram with two components: 'HealthcareAgentL...' (ai:Listener) and 'HealthcareAgent' (ai:Service), connected by a line. The 'Design' panel includes 'Generate' and '+ Add Artifact' buttons. The right sidebar contains 'Deployment Options' with sections for 'Deploy to Devant', 'Deploy with Docker', and 'Deploy on a VM'. Below this is the 'Integration Control Plane' section with an 'Enable WSO2 Integrator: ICP' checkbox. At the bottom, a 'README' section titled 'Healthcare Agent' provides a description of the secure AI-powered healthcare assistant.

WSO2 Integrator: BI x

bi_health_agent Integration

Configure Run Debug

Design Generate + Add Artifact

HealthcareAgentL... ai:Listener

HealthcareAgent ai:Service

Deployment Options

- Deploy to Devant
Deploy your integration to the cloud using Devant by WSO2. [Learn more](#)
Deploy
- Deploy with Docker
- Deploy on a VM

Integration Control Plane

Monitor the deployment runtime using WSO2 Integration Control Plane. [Learn More](#)

Enable WSO2 Integrator: ICP

README Edit

Healthcare Agent

A secure AI-powered healthcare assistant built with Ballerina that helps healthcare professionals retrieve patient data through FHIR (Fast Healthcare Interoperability Resources) systems. This agent is designed with strict ethical boundaries - it only retrieves and presents data without providing medical advice or interpretations.

WSO2 Ballerina 2201.12.7 (Swan Lake Update 12)

International Patient Summary

The screenshot shows a web form for an international patient summary. At the top, there is a search bar with a green 'SEARCH' button. Below this, the form is divided into three main sections: 'A. Patient Information', 'B. Charges and Services', and 'C. Medications'. Each section contains a table of data.

A. Patient Information

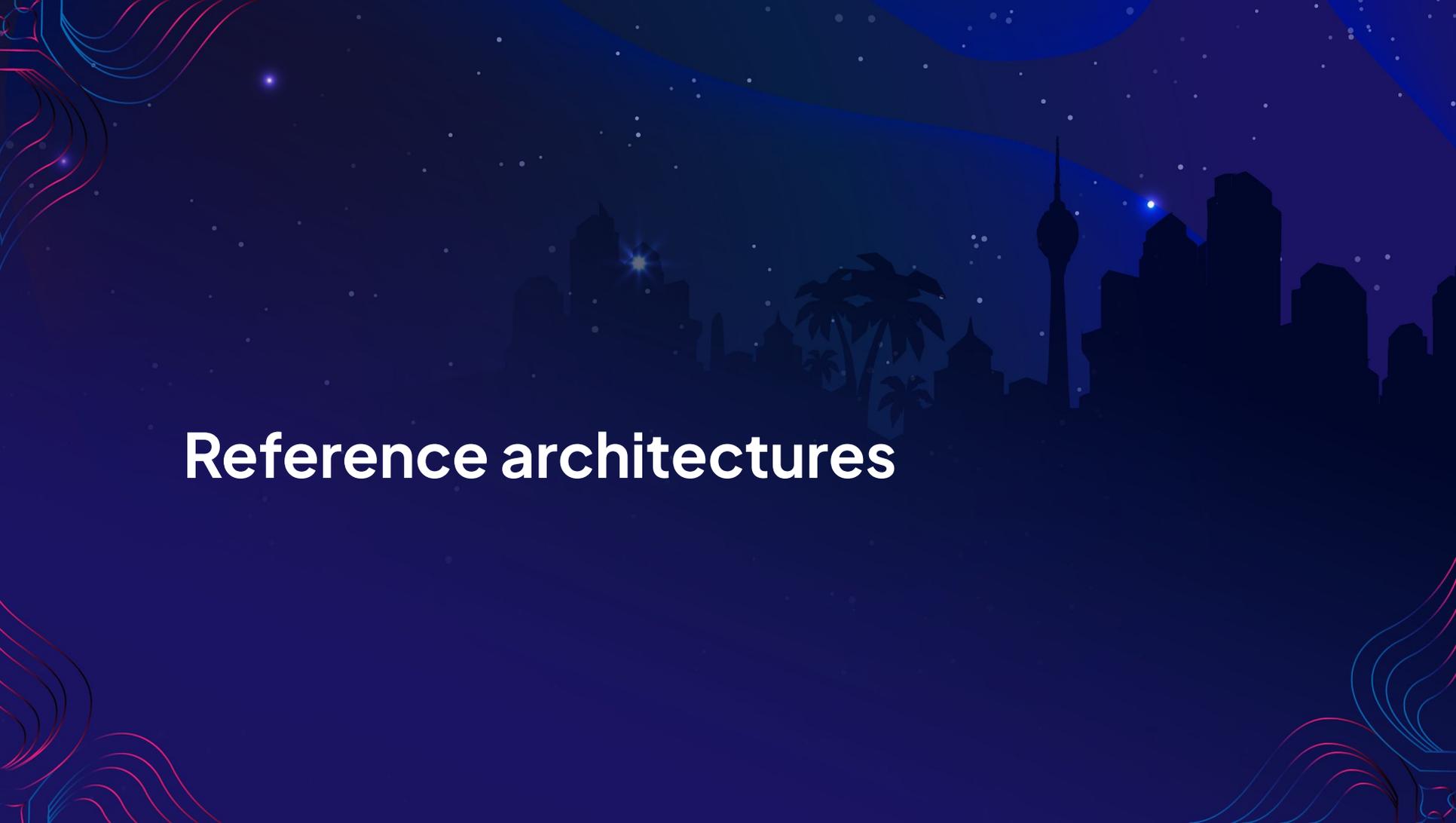
First Name	Mr. Schmidt	Last Name	Smith
Address	123 Main Street, Berlin, Germany		

B. Charges and Services

Item	Description	Amount	Unit
10001	Consultation	150.00	EUR
10002	Medication	20.00	EUR

C. Medications

Medication	Dose	Frequency	Unit
Aspirin 100mg	1 tablet	Once daily	EUR
Paracetamol 500mg	1 tablet	As needed	EUR

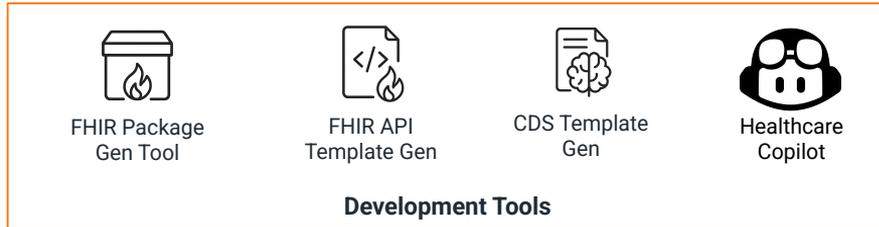
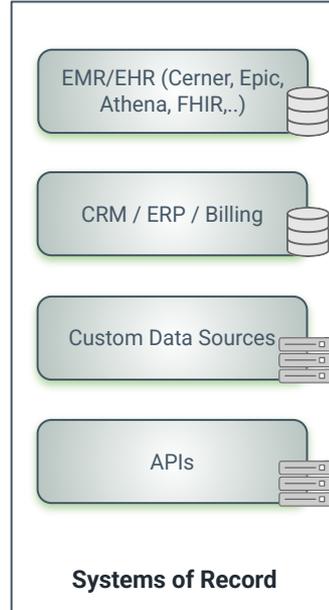
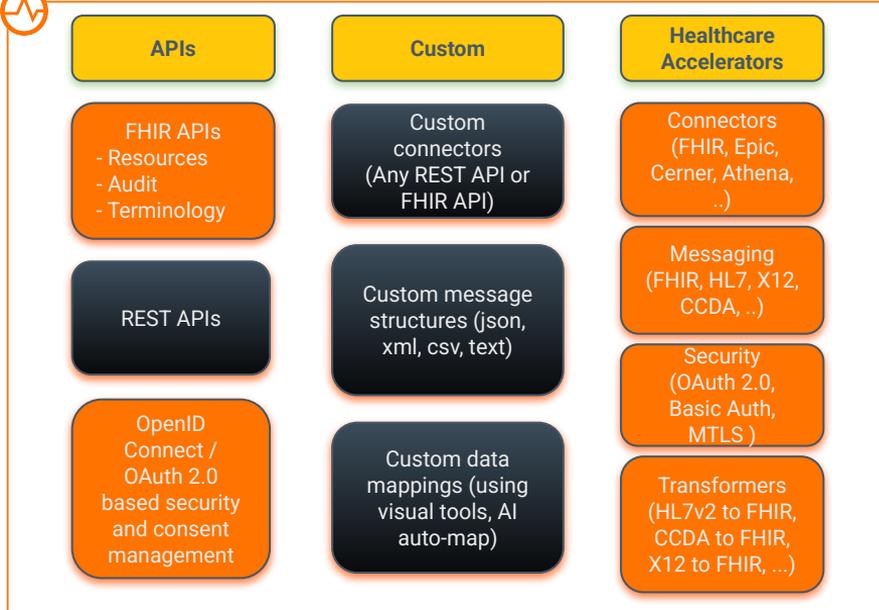


Reference architectures

Reference Architecture for Hospitals – Digitalization

Accelerators

Custom



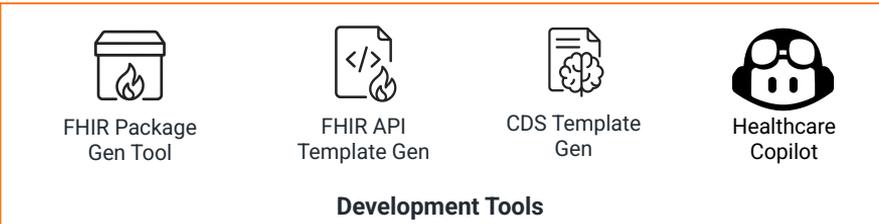
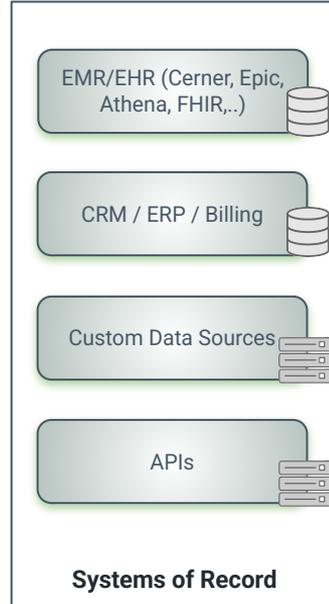
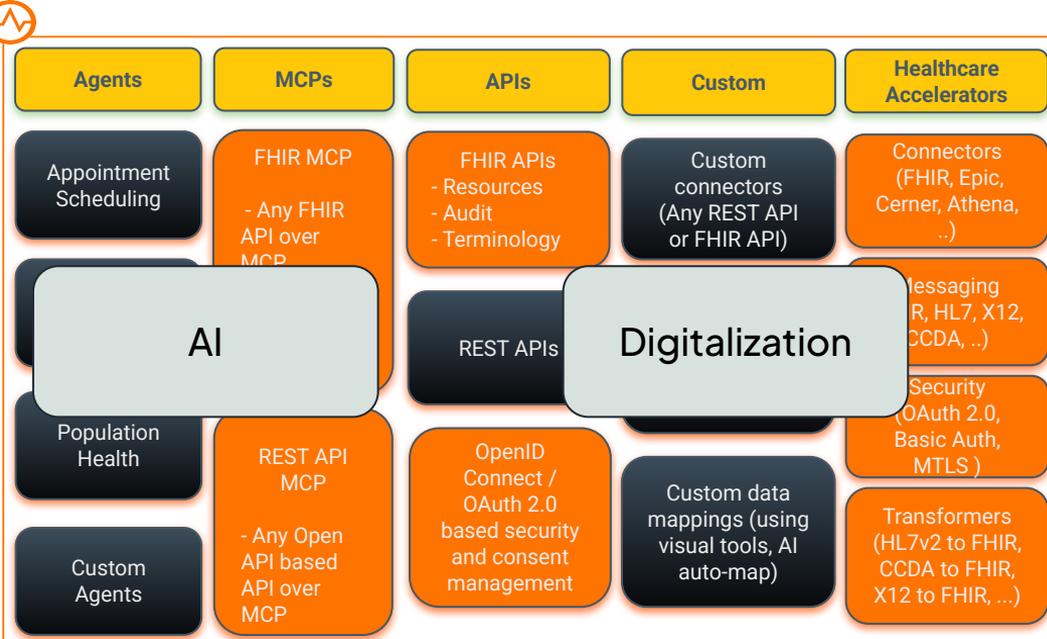
Reference Architecture for Hospitals – Digitalization + AI

Accelerators

Custom



Patients



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Healthcare accelerators

Open source FHIR MCP server

Make your health data accessible to LLMs

- **MCP-compatible server:** Serves any FHIR API via stdio, SSE, or streamable HTTP transports.
- **SMART-on-FHIR based authentication support:** Securely authenticate with FHIR servers and clients
- **Tool integration:** Integrates with any MCP client such as VS Code, Claude Desktop, and MCP Inspector



Star it, if you like it!

<https://github.com/wso2/fhir-mcp-server>

Future of healthcare messaging --> FHIR

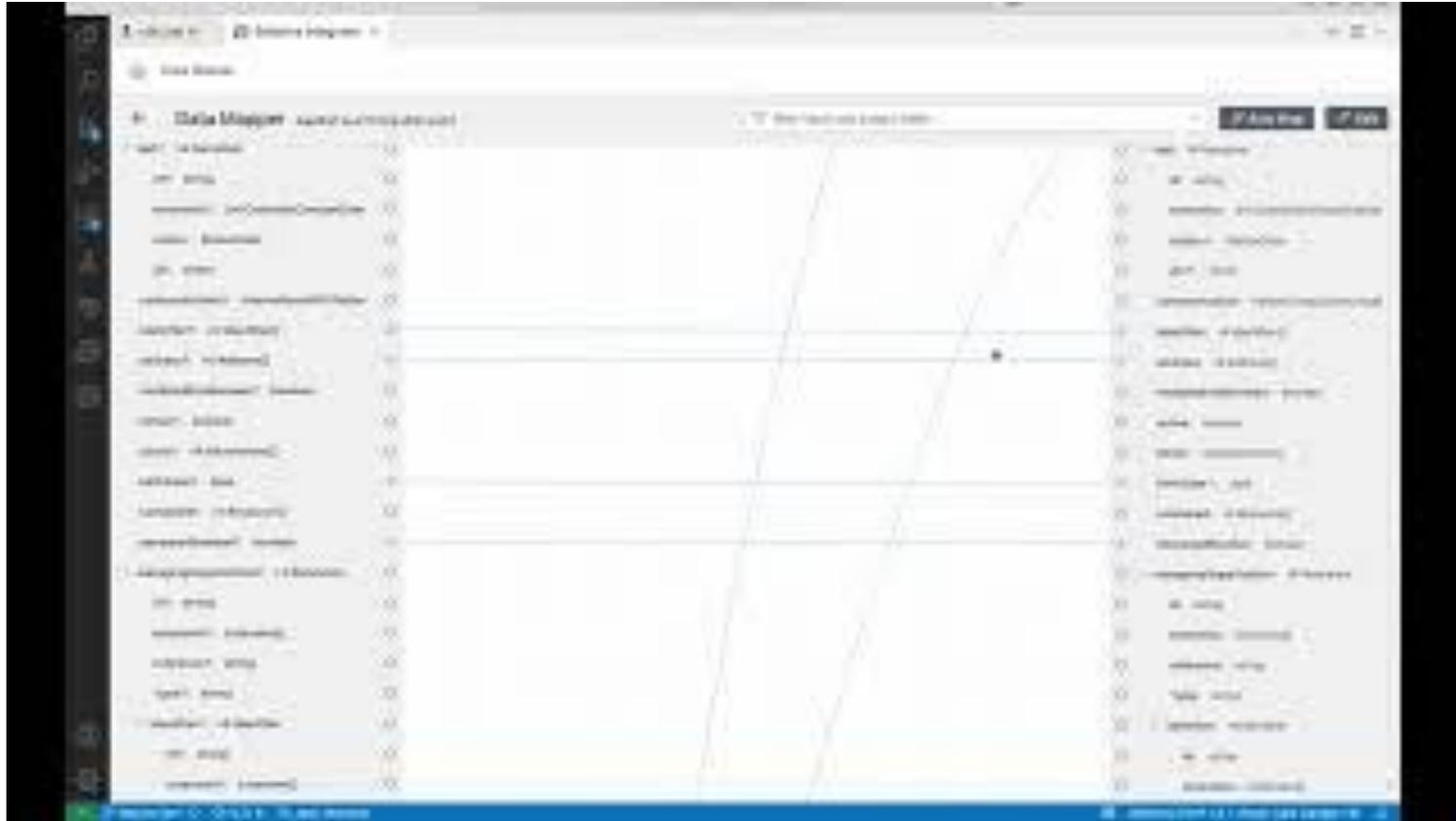
- **F**ast **H**ealthcare **I**nteroperability **R**esources are key standard for interoperability.
- WSO2 Integrator provides **first-class support for FHIR**.
- **Standard FHIR implementation guides** are preloaded to WSO2 Integrator.
- **Custom FHIR implementation guides** can be converted to code in minutes.
- **SMART-on-FHIR** capabilities.
-

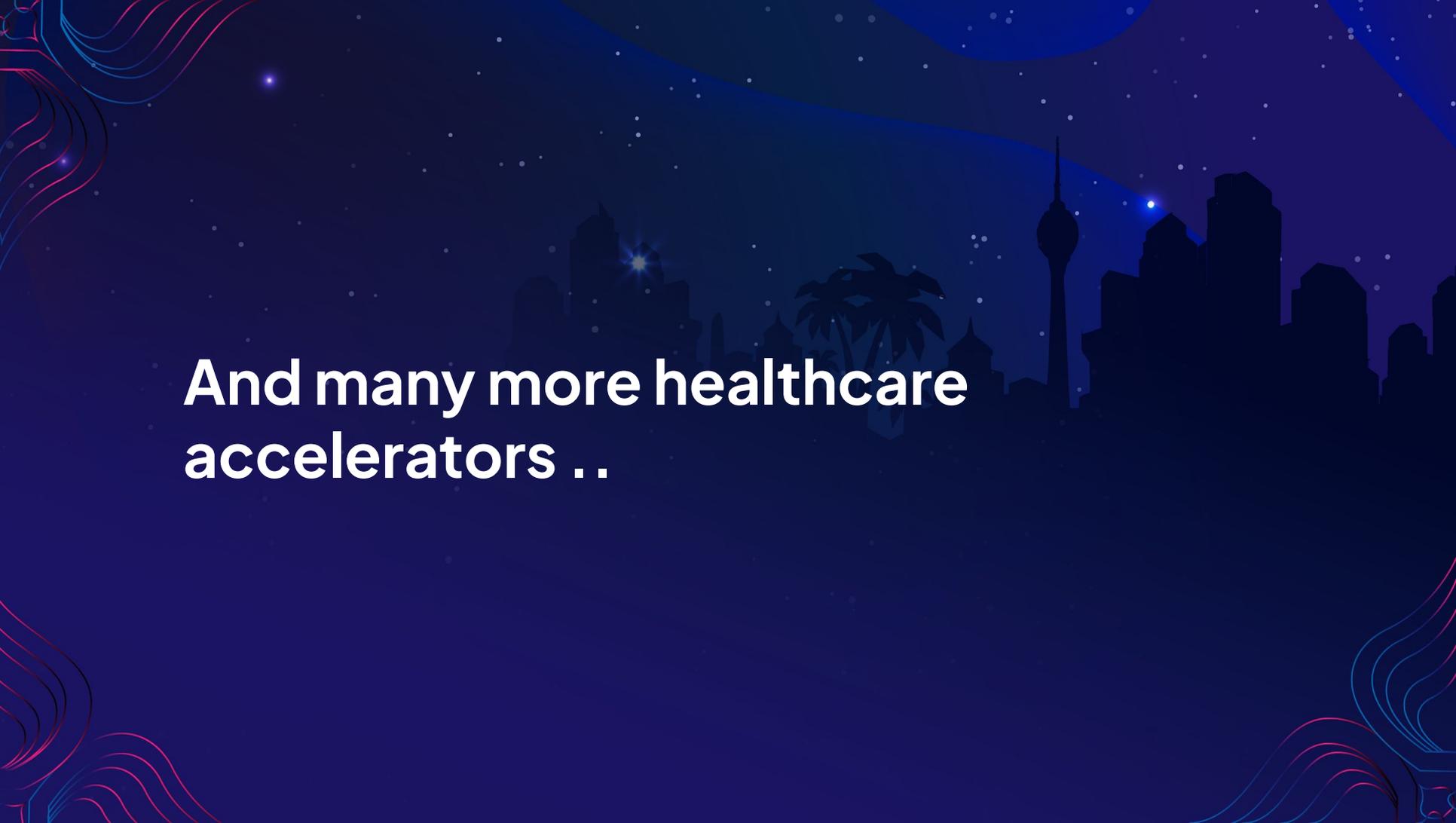
```
public type Patient record {  
    *r4:DomainResource;  
  
    RESOURCE_NAME_PATIENT resourceType = RESOURCE_NAME_PATIENT;  
  
    r4:Extension[] extension?;  
    PatientGender gender?;  
    r4:Extension[] modifierExtension?;  
    PatientLink[] link?;  
    r4:code language?;  
    PatientContact[] contact?;  
    r4:dateTime deceasedDateTime?;  
    r4:Reference[] generalPractitioner?;  
    r4:ContactPoint[] telecom?;  
    string id?;  
    r4:Narrative text?;  
    PatientCommunication[] communication?;  
    r4:Identifier[] identifier?;  
    r4:Address[] address?;  
    boolean multipleBirthBoolean?;  
    boolean active?;  
    r4:Attachment[] photo?;  
    r4:date birthDate?;  
    r4:Resource[] contained?;  
    boolean deceasedBoolean?;  
    r4:Reference managingOrganization?;  
    r4:Meta meta?;  
    r4:integer multipleBirthInteger?;  
    r4:HumanName[] name?;  
    r4:uri implicitRules?;  
    r4:CodeableConcept maritalStatus?;  
    r4:Element ...;  
};
```

Speed-up healthcare interoperability - it up!

 health.cda.r3 0.9.0	 health.clients.fhir 3.0.0	 health.clients.hl7 2.0.0	 health.fhir.cds 2.0.0
 health.fhir.r4 6.1.0	 health.fhir.r4.aubase410 2.0.0	 health.fhir.r4.aubase421 2.0.0	 health.fhir.r4.aucore040 2.0.0
 health.fhir.r4.carinbb200 2.0.0	 health.fhir.r4.davincicrd210 1.0.0	 health.fhir.r4.davincidrugformulary210 2.0.0	 health.fhir.r4.davincidr210 1.0.0
 health.fhir.r4.davincihrex100 2.0.0	 health.fhir.r4.davincipas 2.0.0	 health.fhir.r4.davincipannet120 2.0.0	 health.fhir.r4.international401 3.0.1
 health.fhir.r4.ips 3.0.0	 health.fhir.r4.lkcore010 1.3.0	 health.fhir.r4.medcom240 1.0.1	 health.fhir.r4.parser 6.1.0
 health.fhir.r4.terminology 6.0.0	 health.fhir.r4.uscore311 2.0.0	 health.fhir.r4.uscore400 2.0.0	 health.fhir.r4.uscore501 2.0.0
 health.fhir.r4.uscore610 2.0.0	 health.fhir.r4.uscore700 2.0.0	 health.fhir.r4.validator 5.1.0	 health.fhir.r4utils 1.0.2
 health.fhir.r4utils.ccdatofhir 3.0.2	 health.fhir.r4utils.fhirpath 1.2.0	 health.fhir.r5 1.0.0	 health.fhir.r5.international500 1.0.0
 health.fhrr4 2.2.0	 health.fhrr5 1.0.0	 health.hl7v2 3.0.5	 health.hl7v2.utils.v2tofhrr4 4.0.3
 health.hl7v23 4.0.1	 health.hl7v231 4.0.1	 health.hl7v24 4.0.1	 health.hl7v25 4.0.1
 health.hl7v251 4.0.1	 health.hl7v26 4.0.1	 health.hl7v27 4.0.1	 health.hl7v271 4.0.1

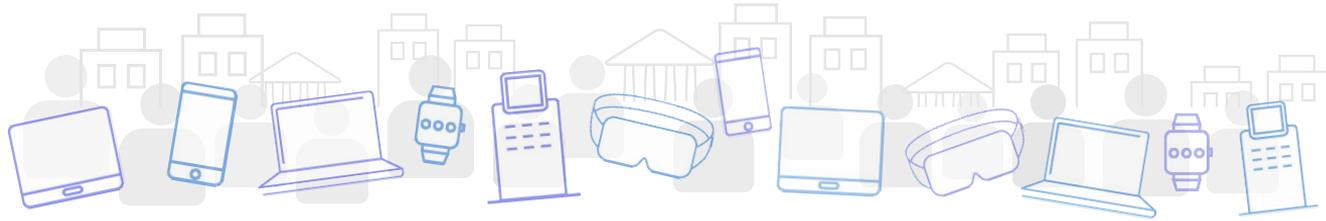
Visual data mapping - powered up with AI





**And many more healthcare
accelerators ..**

Let's put it all together...



Innovative Digital Health Experiences

Healthcare Accelerators



API Management



Integration



Identity & Access Management

Run it yourself, private cloud, or SaaS

**Right data at the right time can mean
the difference between loss and hope.**

- Unknown -



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Thank you!

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