20TH ANNIVERSARY EDITION

WSO2CON ASIA

PLATFORMLESS MODERNIZATION

Build and Govern APIs with AI in WSO2 API Manager



Hello!



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Introduction & Lab Overview

Introduction & Lab Overview

- **Why AI in API Management?**
  - AI is transforming how APIs are built, managed, secured and consumed.
  - Automates repetitive tasks, improving efficiency.
  - Enhances compliance and governance.
- **Objective of the Lab**
  - Demonstrate AI-driven features in WSO2 API Manager.
  - Show how AI assists in different aspects of API development.
  - Cover API design, management, security, governance and consumption.
- **Use Case Overview**
  - Modernizing the online store to overcome legacy system challenges.
  - Explore AI-driven automation in API lifecycle.
  - Show how AI simplifies and improves API development and management.

Introduction to WSO2 API Manager

WSO2 API Manager

- 100% open source
- Full Lifecycle API management
- Secure API Management: Secure APIs, enforce authorization rules and access policies
- API Discovery and Governance: Portals for API Design and Consumption, Approval workflows for API publishing and API subscription
- API Monetization
- Insightful Analytics and Observability
- Customisable Portals, Workflows and Extension points

One product – open source or SaaS

WSO2 API Manager

WSO2 API Control Plane

WSO2 Kubernetes Gateway

K8s-native design, lightweight, Envoy based

WSO2 Immutable Gateway

Offline mode, immutability, edge gateway

WSO2 Universal Gateway

Inbuilt mediation, range of protocols

Third-Party Gateways

AWS API Gateway, Solace, and more

Bijira by WSO2

AI-native, fully-powered SaaS API and MCP Server management

Powered by WSO2 API Manager

Built on Choreo

AI: Design / Testing / Search / Governance

AI for APIM

API Management is getting smarter, AI enhances every stage from API design and documentation to governance and testing, boosting developer productivity and consistency.

APIM for AI

API Management makes AI services secure, discoverable, and governed, turning models and agents into managed APIs with full lifecycle control and enterprise-grade policies.

Use Case Overview

Business Use Case: Hotel Management System

- **Scenario:**
  - **Lodgr** team manages a growing ecosystem of APIs for hotel operations including booking, billing, guest management, and housekeeping.
  - With rapid expansion, they face challenges such as inconsistent documentation, delayed detection of anomalies, and manual policy enforcement across services.
  - As the number of APIs scales, maintaining quality, reliability, and security becomes increasingly difficult without intelligent, automated oversight.
- **Solution:**
  - **Lodgr** wants to modernize by implementing APIs for real-time synchronization of product details (description, price, stock) across platforms, ensuring seamless inventory management, consistency, and accuracy.

Hotel Guests/Business travelers/Tourists

Partners

Property Owners/Booking Channels
Maintenance & Housekeeping Providers

Lodger

Website & Mobile Apps



Booking Engine



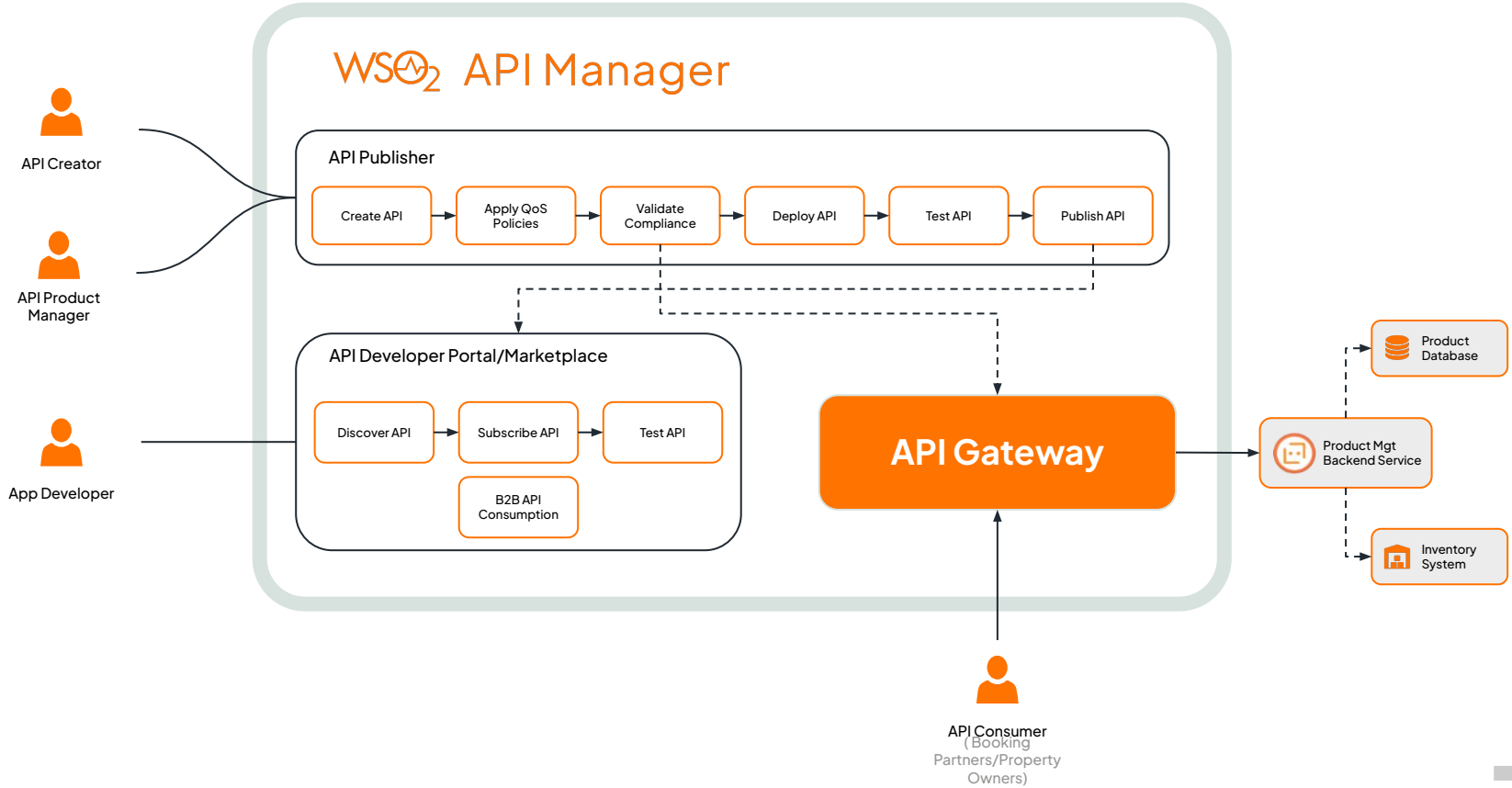
Department

- Room & Property Management
- Housekeeping & Maintenance
- Reservation & Guest Management
- Billing & Invoicing

Personas

Username	Role	Responsibility
Adam	API Owner (Internal/creator)	Designing and Implementing APIs
Juliya	API Product Manager (Internal/publisher)	Manage API lifecycle, documentation, and ensuring quality and security standards
Rajesh	Partner App Developer/ (Internal/subscriber)	Discover, subscribe and utilize APIs
Ryan	System Admin/ (admin)	Manage users and system administration

High-Level Solutions Diagram



AI Powered API Design Assistant

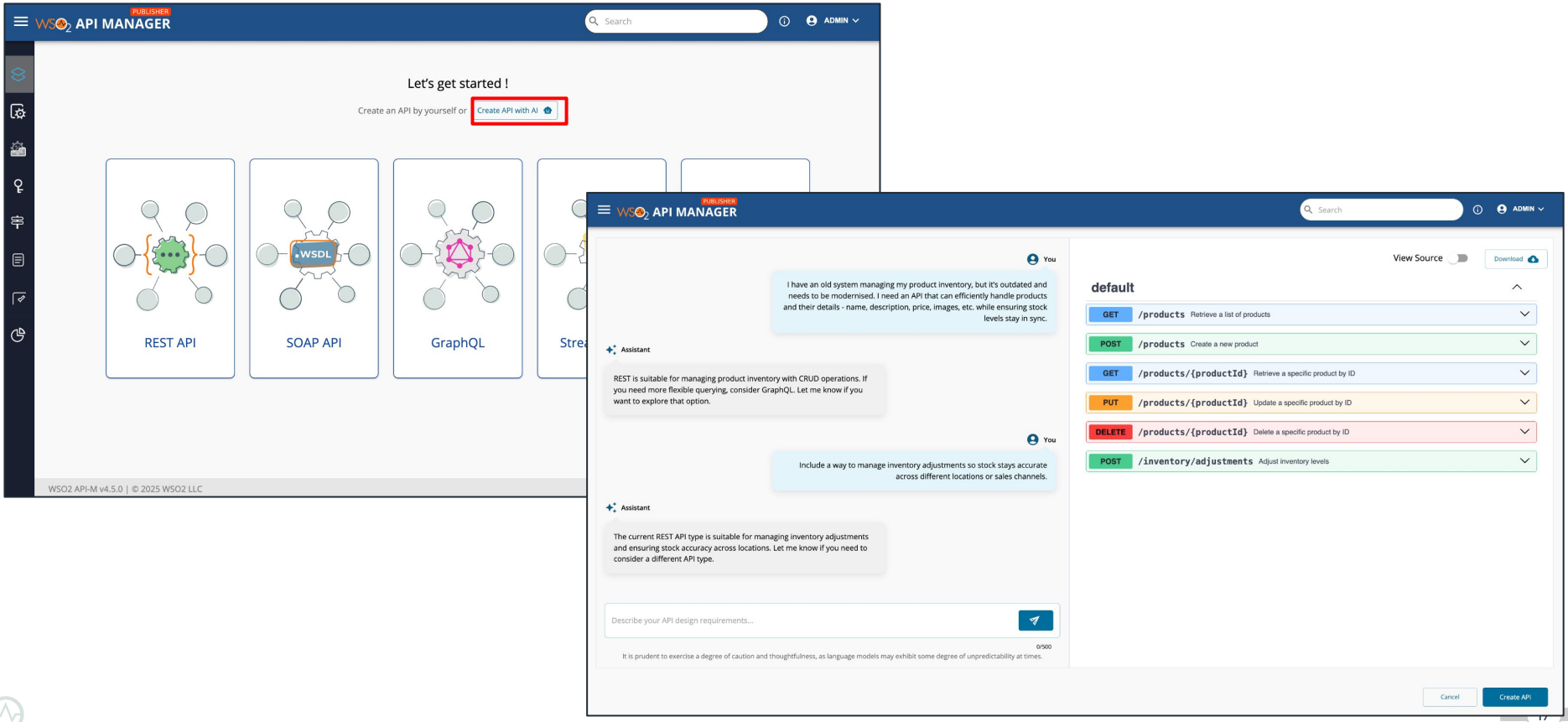
AI Powered API Design Assistant

- **The Challenge**
  - Manual API definition requires technical expertise, slowing down development.
  - Defining resources, schemas, and configurations is time-consuming and inefficient.
  - Non-technical users struggle with complex API design specifications.
  - Refining and adjusting APIs requires extensive manual effort.

AI Powered API Design Assistant

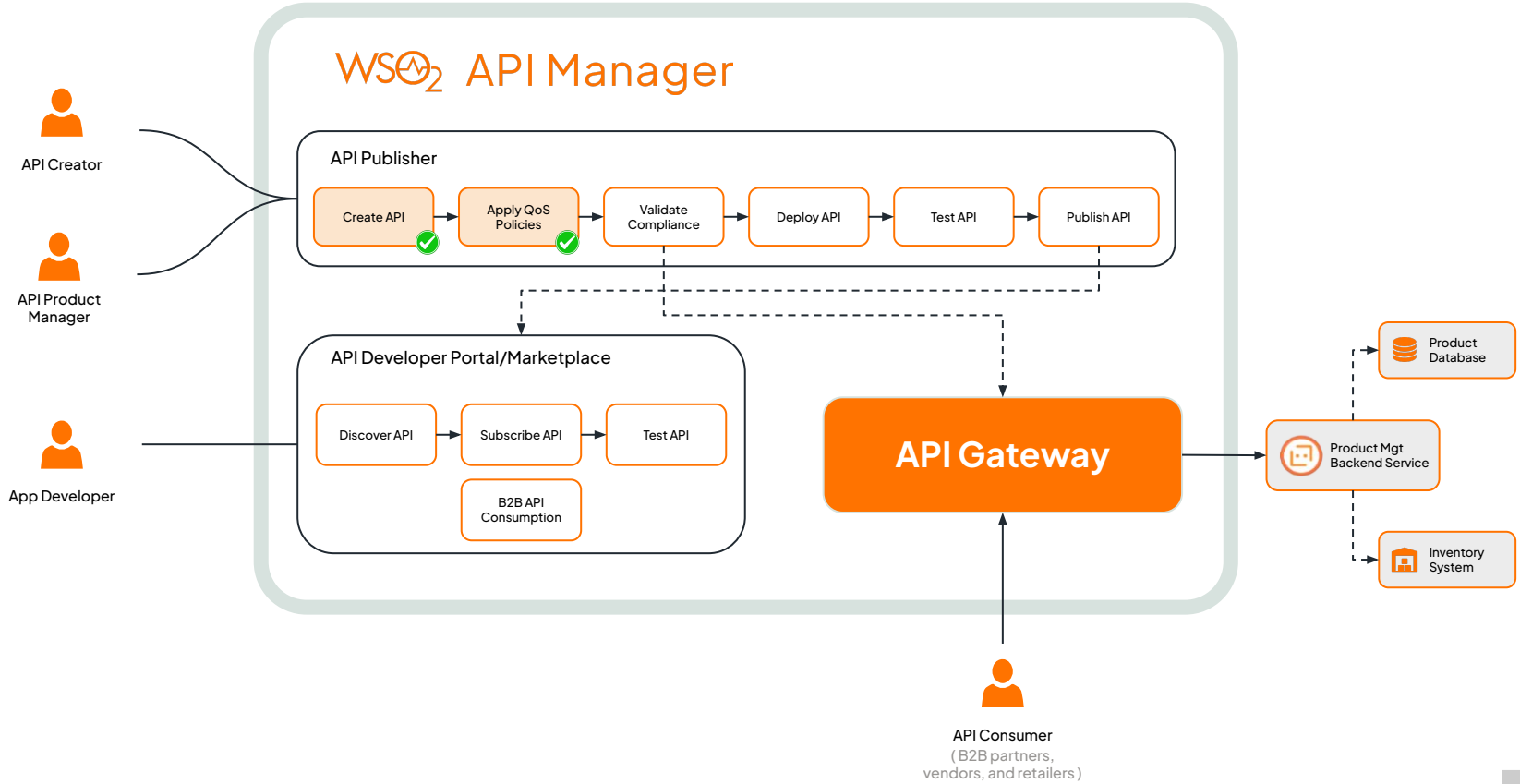
- **How API Design Assistant Solves It**
  - Chat based API creation allows users to generate REST, GraphQL, and Async APIs using natural language.
  - UI Visualization provides a structured view of API resources for easy understanding.
  - View and Modify API Specifications enables users to review and update API structures.
  - Refinement and Inquiry lets users understand/modify APIs & API elements.
- **Business Impact**
  - Speeds up API design by reducing manual effort and ensuring consistency and accuracy.
  - Enables both technical and non-technical users to create and refine APIs.

AI Powered API Design Assistant



Demo 1

What We've Accomplished



API Governance

API Governance

- The Challenge
  - Inconsistent Standards – Varying security & documentation practices
  - Compliance Risks – Weak enforcement leads to vulnerabilities
  - Manual Processes – Inefficient & error-prone policy enforcement
  - Limited Visibility – Lack of control over compliance & governance
- How API Governance Solves it
  - Automated Policies – Enforce governance across API design & lifecycle
  - Standardized Practices – Secure, document, & version APIs consistently
  - Compliance Insights – Audit adherence & detect inconsistencies
  - Approval Workflows – Ensure governance in lifecycle changes

API Governance

- Business Impact
  - Reduces overhead – Automates governance, minimizing manual effort.
  - Ensures security & compliance – Enforces standardized policies.
  - Enhances visibility & control – Manages API practices from design to deprecation.

API Governance – Concepts

Ruleset 1 - API Best Practices

- **API name** should be **below 50** characters
- **API version** should **start** with **“v”**

Ruleset 2 - External API Best Practices

- All endpoints are served over **HTTPS**
- **API description** should included

Policy: External API Policy

- **Apply to:** All APIs / Label (External)
- **Enforcement:**
  - **State:** API Create / API Update / API Deploy / API Publish
  - **On:** Error / Warn / Info
  - **Alert**: Notify / Block

API: HotelBooking API

Label: HR

External API Policy

API: HotelGuestProfile

Label: HR

External API Policy

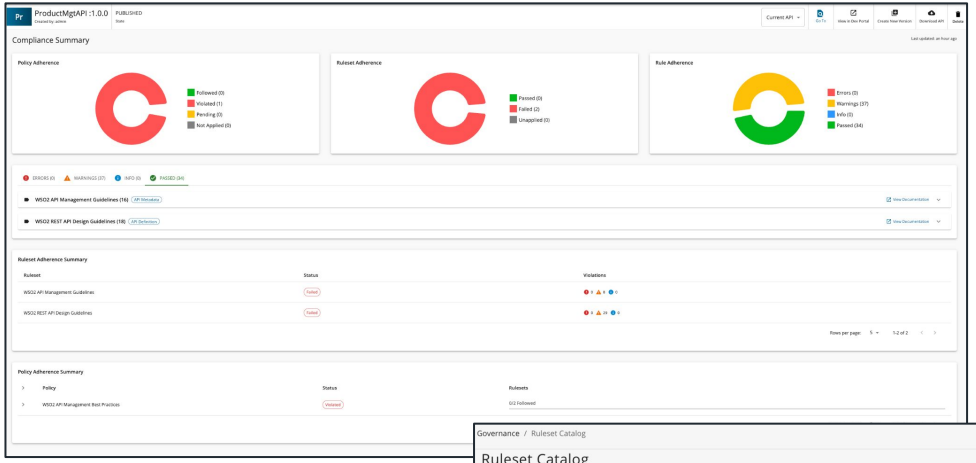
API: Travel

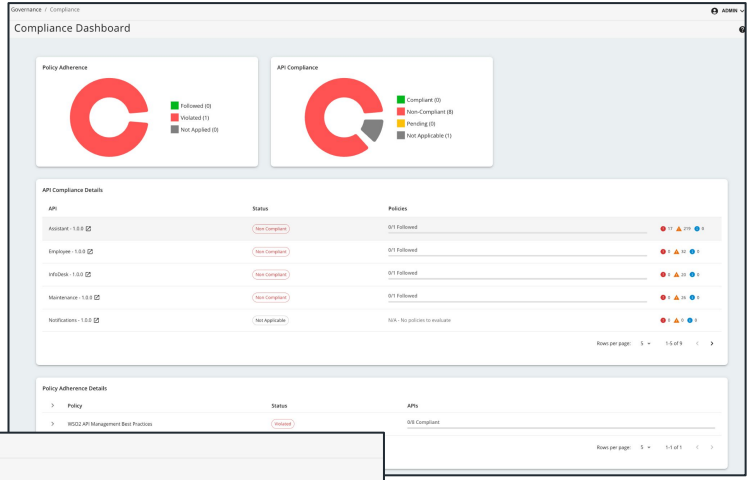
Label: Finance

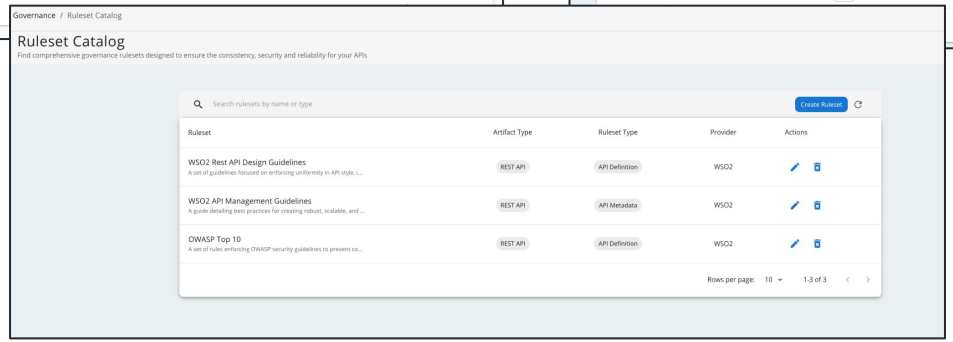
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Governance Dashboard

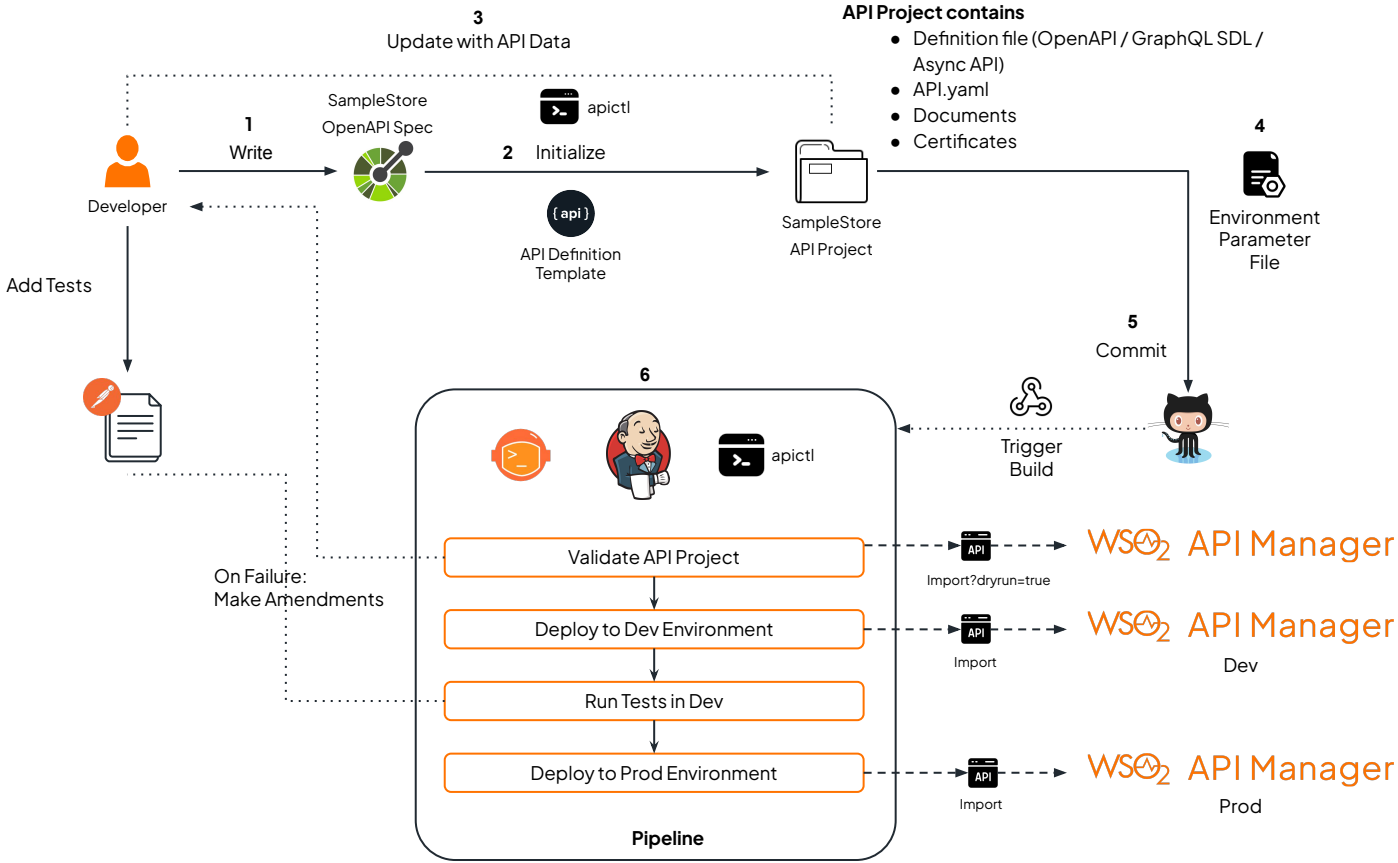
Dashboards to monitor and manage the governance policies enforced on APIs





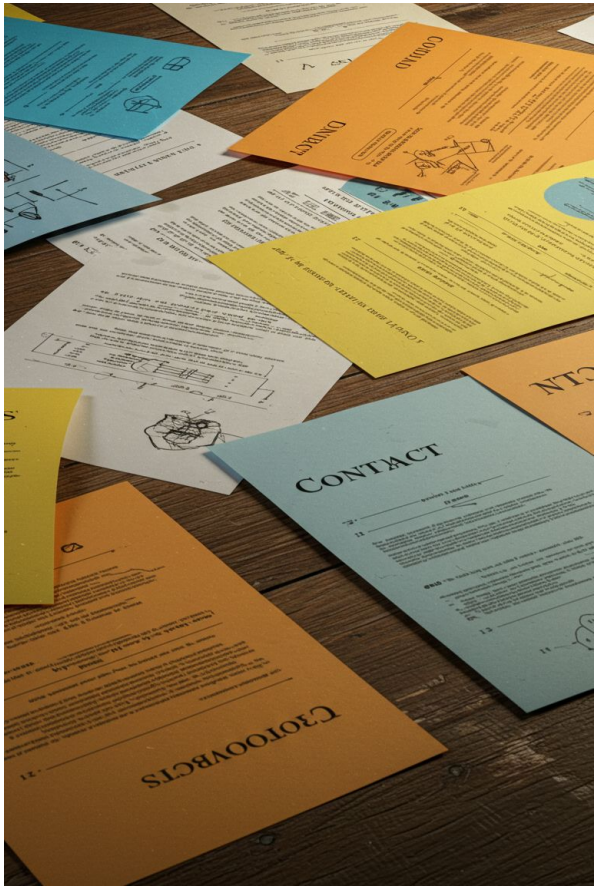


CI/CD Driven API Governance



AI Governance

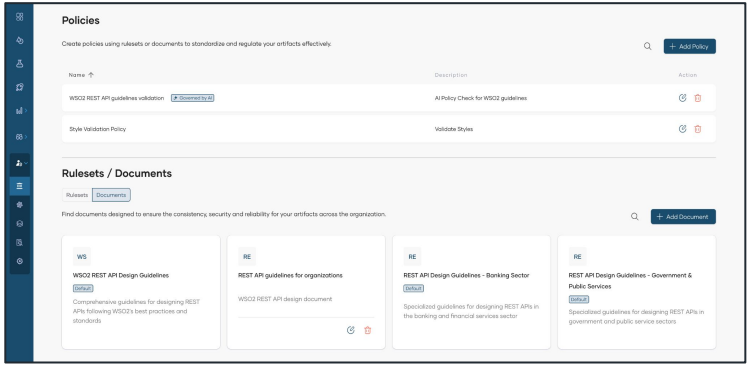
- Natural Language Policies
  - Define rules using English documents.
- Automated Quality Checks
  - Detect design flaws & best practice violations.
- Security & Compliance
  - Prevent vulnerabilities before deployment.
- Governance Insights
  - Monitor policy adherence & effectiveness.

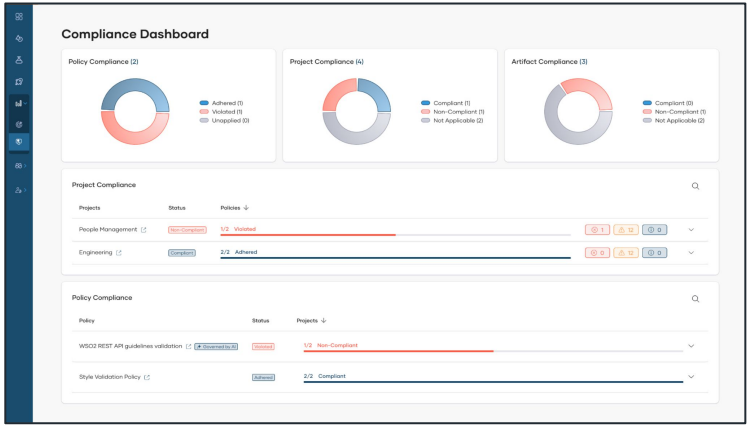


Note – This is currently available in Bijira (APIM SaaS)

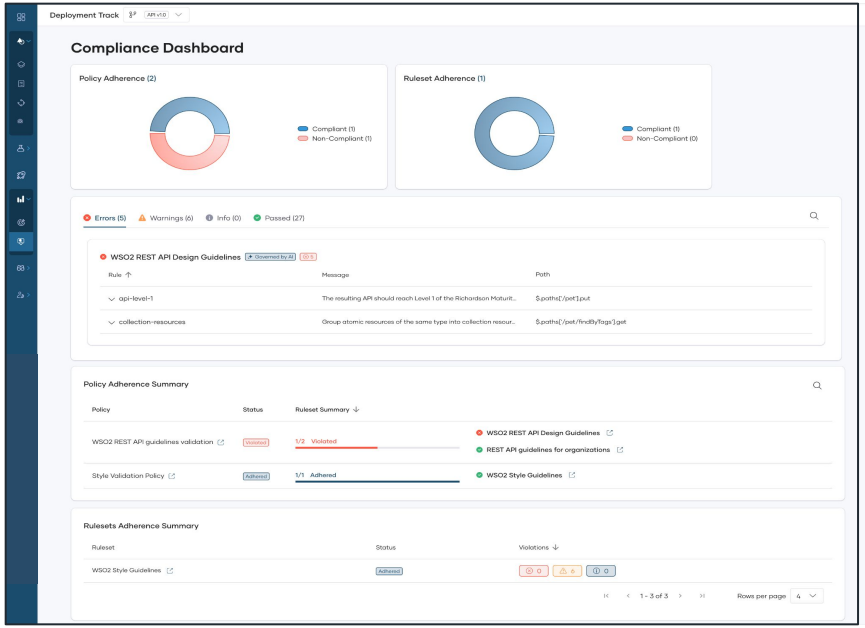
Source: AI (ImageFX) Generated

AI Governance





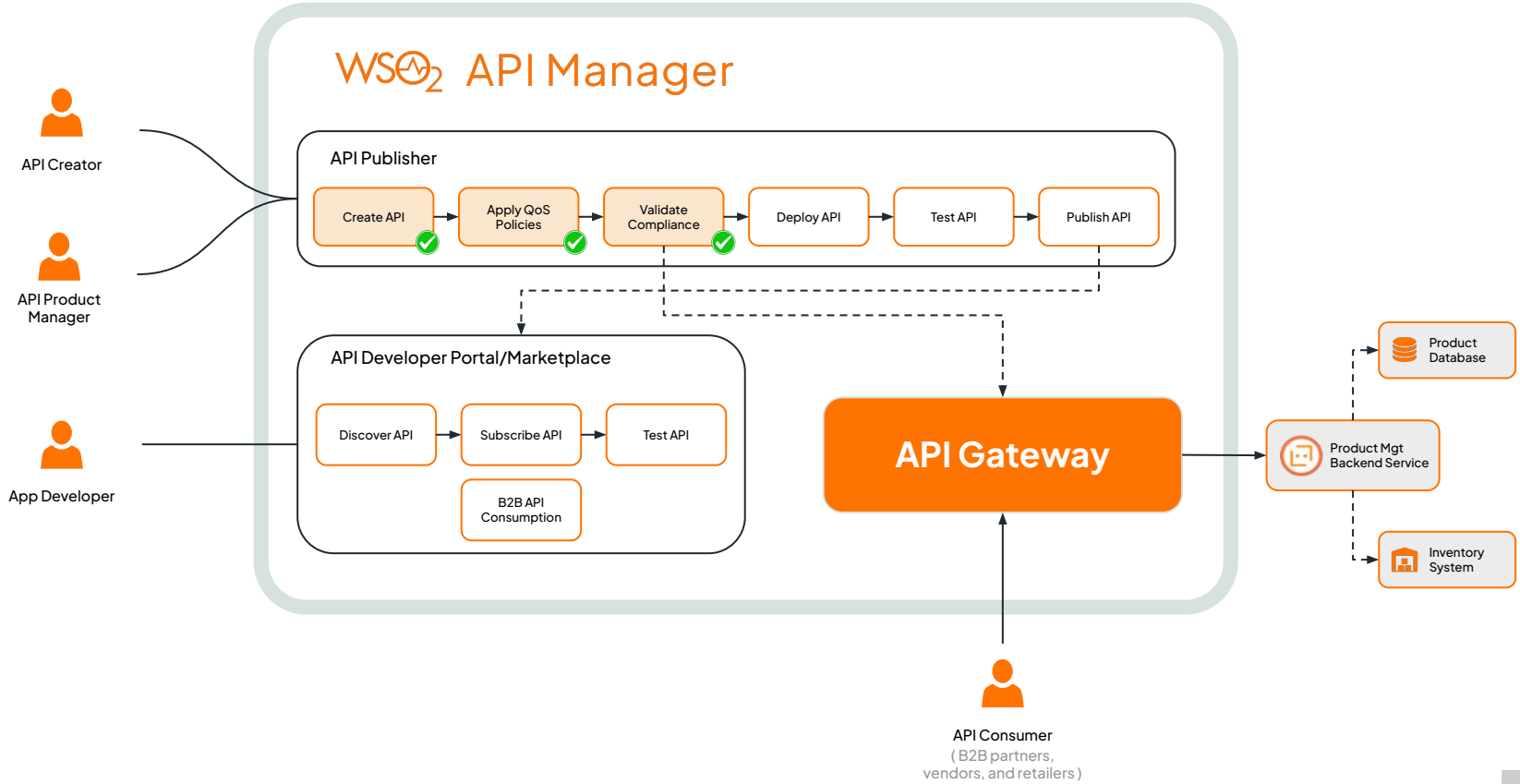
For API Creators



For Admins

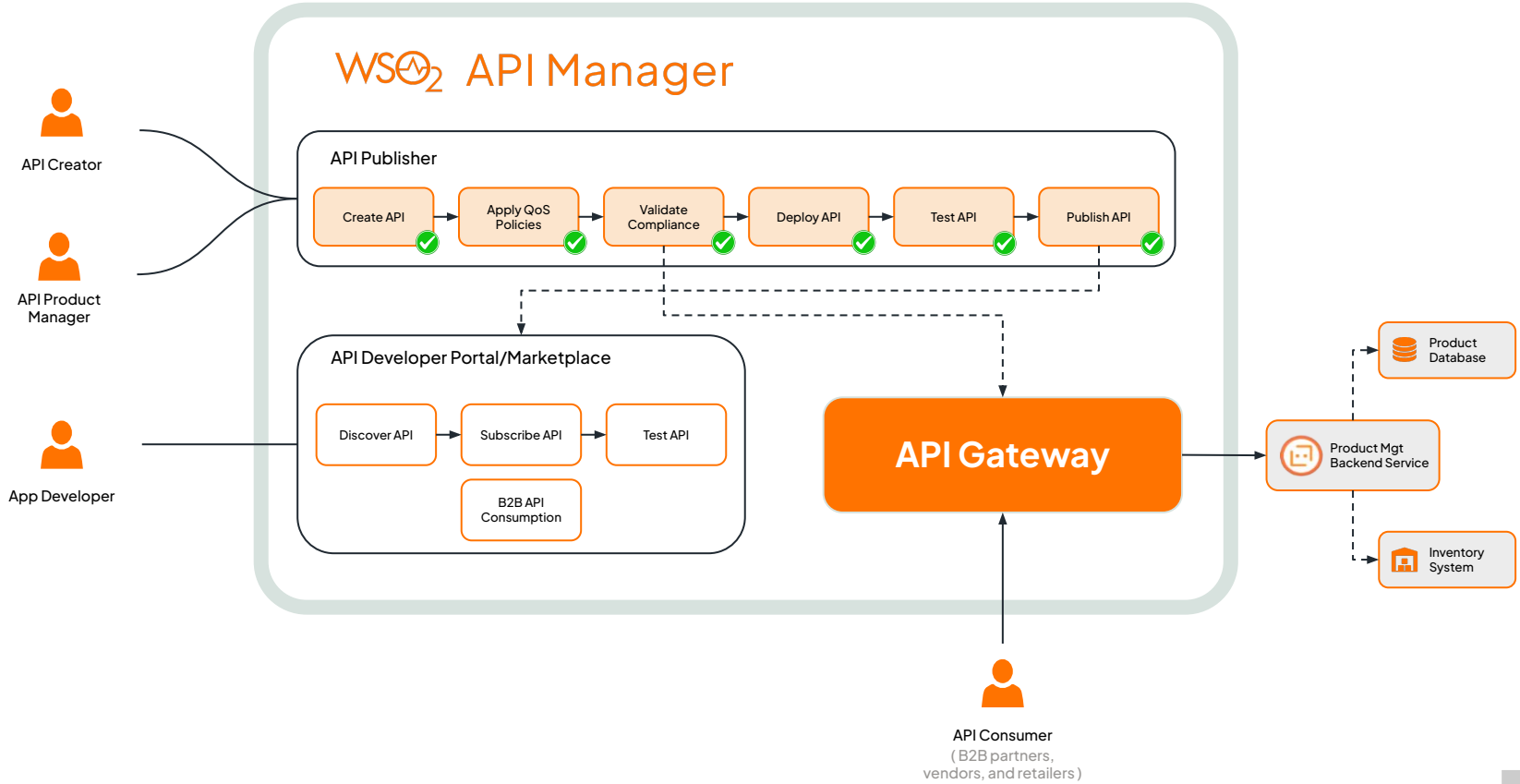
Demo 2

What We've Accomplished



Deploy and Publish API

What We've Accomplished



AI-Powered API Discovery

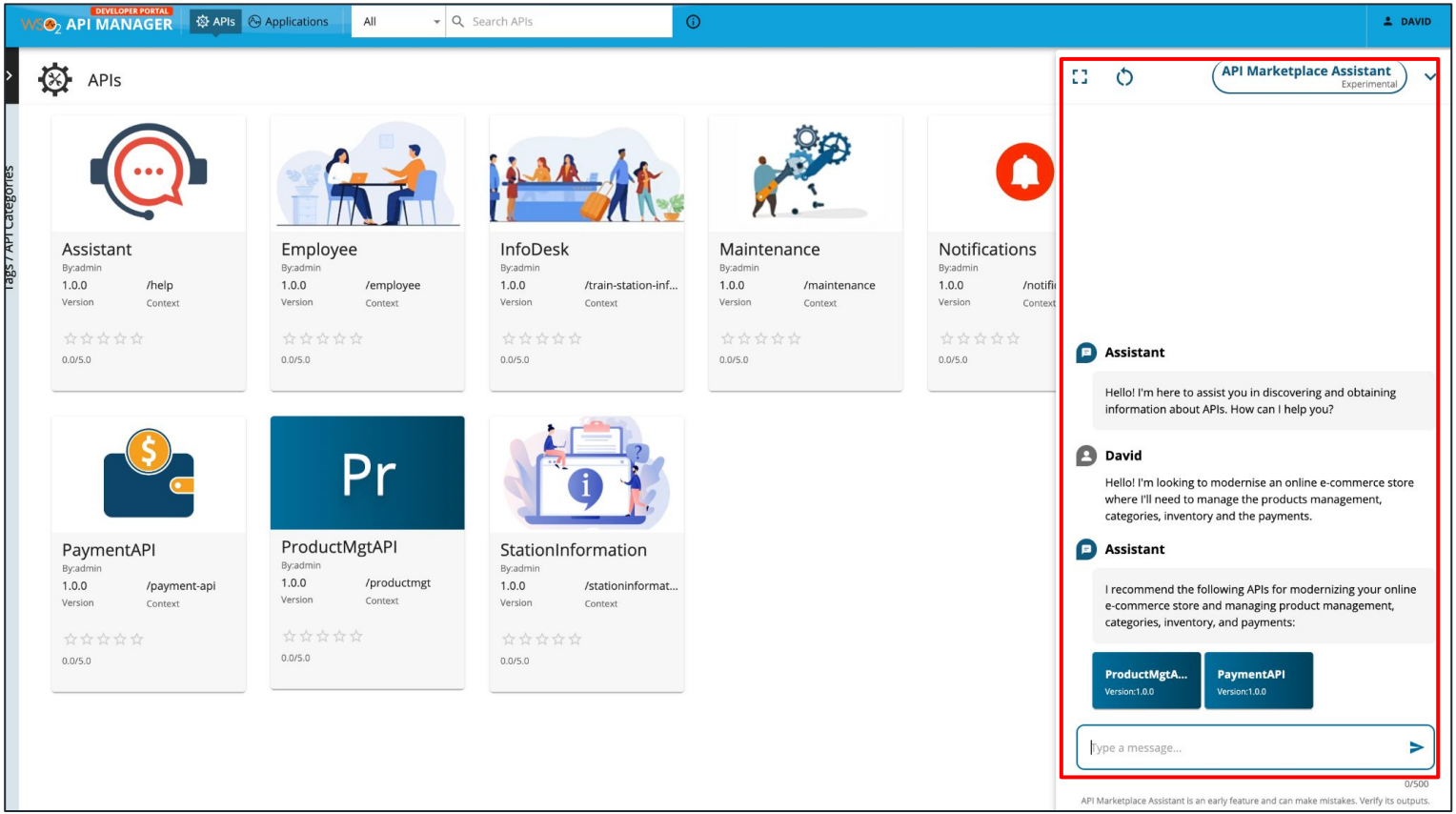
AI-Powered API Discovery

- **The Challenges**
  - Traditional API discovery relies on keyword searches, limiting accuracy.
  - Finding relevant APIs can be time-consuming and inefficient.
  - Lack of intelligent recommendations makes API selection difficult.
- **How Marketplace Assistant Solves It**
  - Uses AI to enable natural language interaction with APIs.
  - Provides smart recommendations beyond basic keyword searches.
  - Enhances API discovery with contextual understanding and insights.

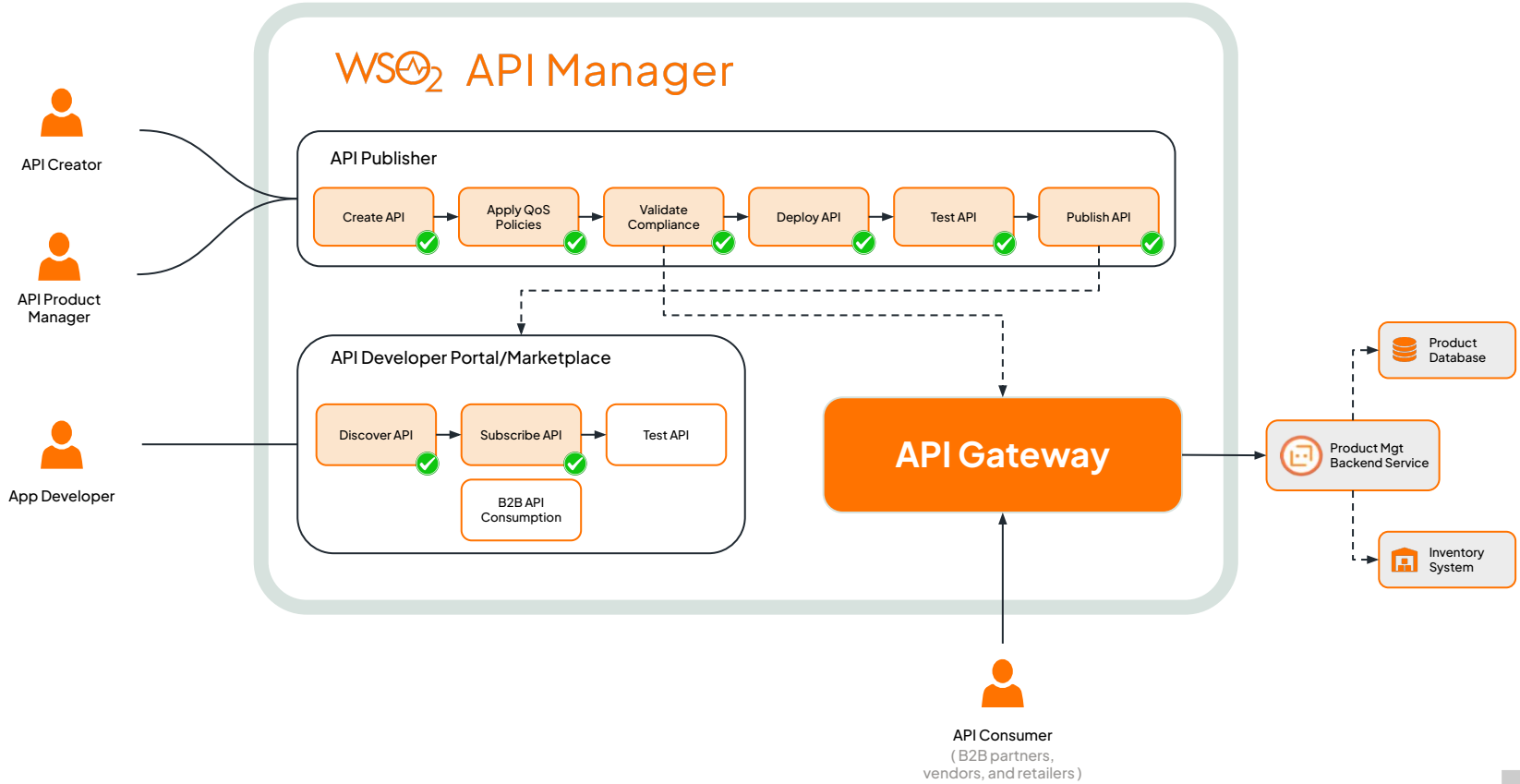
AI-Powered API Discovery and Consumption

- **Business Impact**
  - Speeds up API discovery and selection, improving efficiency.
  - Enhances developer experience with intelligent recommendations.
  - Drives better API adoption and usage, maximizing business value.

AI-Powered API Discovery and Consumption



What We've Accomplished



API Chat for Testing

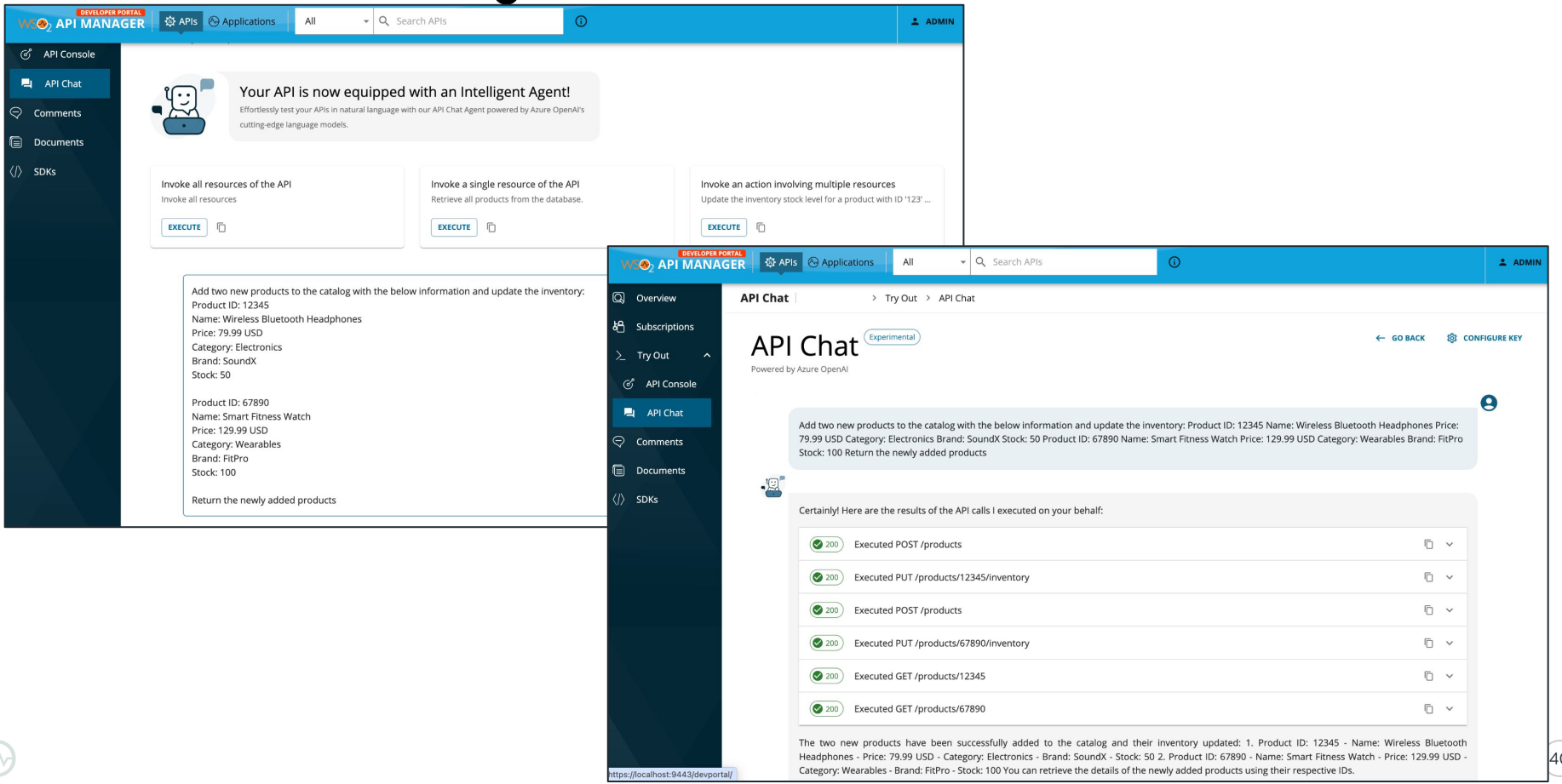
API Chat for Testing

- **The Challenges**
  - Manual test scenario creation and payload mocking are time-consuming.
  - Managing sequences with multiple resource calls often requires coding and technical expertise.
- **How API Test Chat Helps**
  - Allows engaging with APIs using natural language through API Chat.
  - Eliminates the need for manual test scenario creation and payload mocking.
  - Enables easy communication with APIs without coding, even for complex sequences.

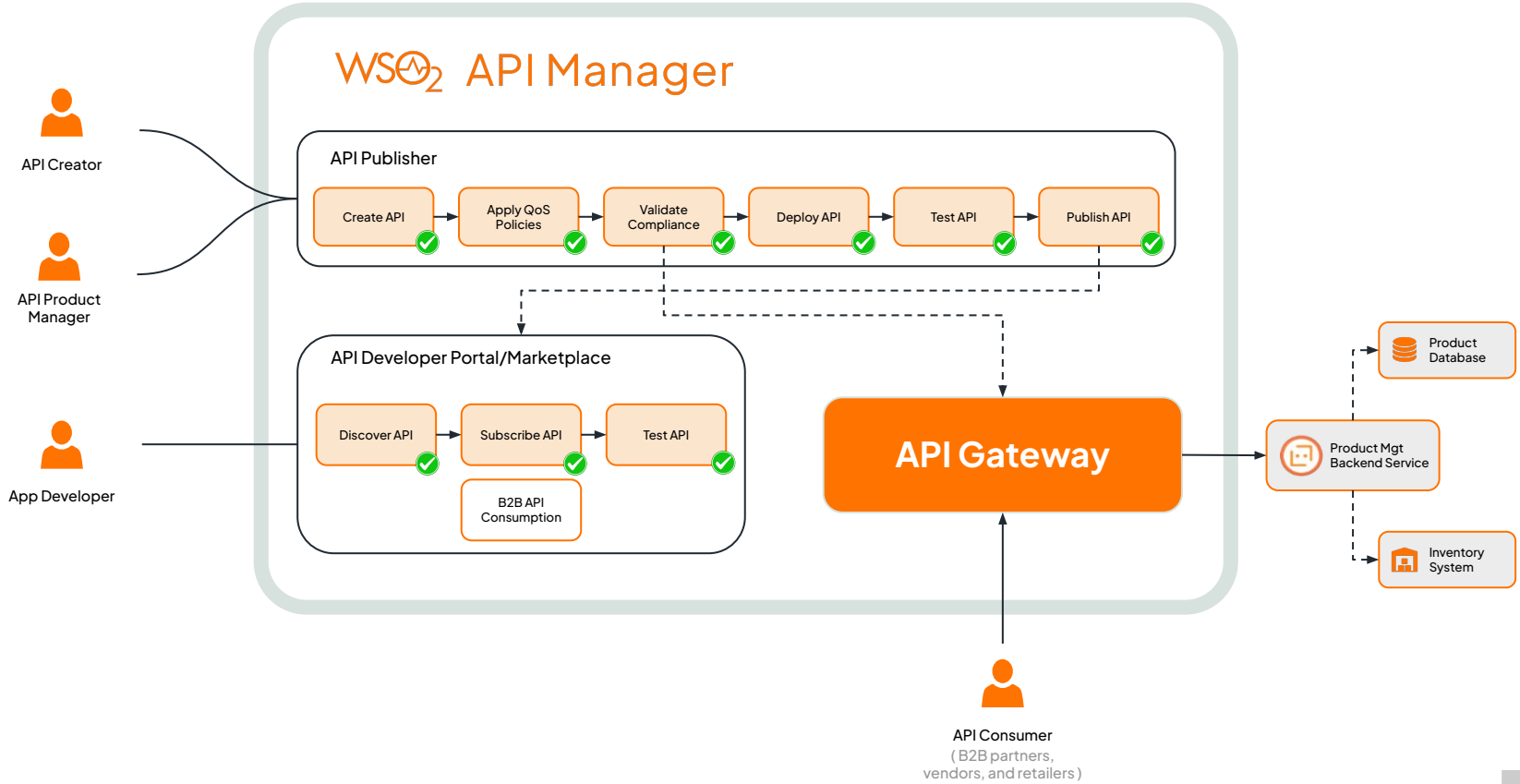
API Chat for Testing

- **Business Impact**
  - Streamlines and simplifies API testing, making it more efficient.
  - Increases accessibility for non-technical users, improving collaboration.
  - Reduces development time and effort, speeding up the API lifecycle.

API Chat for Testing



What We've Accomplished



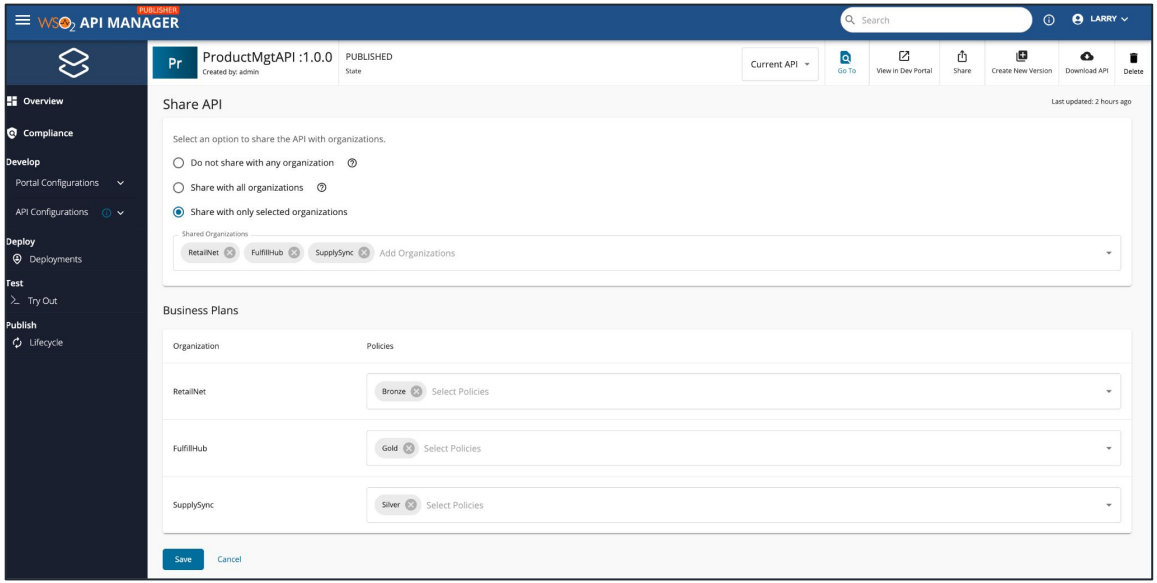
B2B

B2B API Consumption with Organization Support

- **The Challenge**
  - Managing API access across business units and partners requires structured control
  - Different organizations need specific security, rate limiting, and governance policies
  - Manual API provisioning increases administrative effort
  - Limited visibility makes monitoring and governance complex
- **How B2B API Management Solves It**
  - Role-Based Access Control (RBAC) defines access at organization and user levels
  - Hierarchical API access structures visibility and policy enforcement
  - Automated API provisioning simplifies onboarding for partners and teams
  - Custom organization-specific policies enforce security, rate limits, and governance

B2B API Consumption with Organization Support

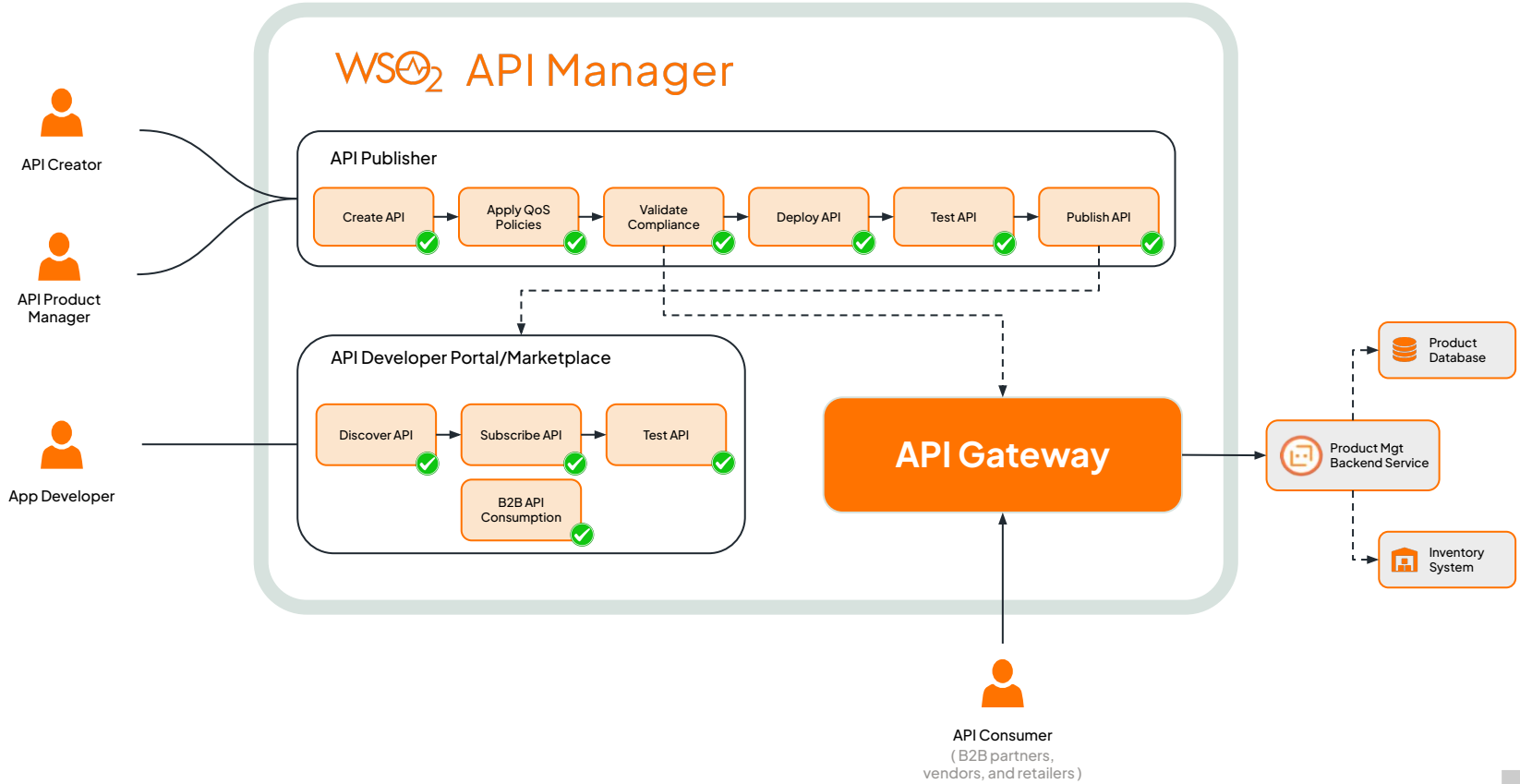
- **Business Impact**
  - Enhances security and governance with structured API access rules
  - Simplifies onboarding and management for partners and internal teams
  - Improves visibility and control over API consumption at the organization level



B2B Partner Organizations

Username	Partner Organization	Role	Responsibility
Rajesh	Ledgr	App Developer (Internal/subscriber)	Discover, subscribe and utilize the Room Management API
Bob	CleanMe (Maintenance & Housekeeping Providers)		
Sophie	BNet (Booking Channels)		

What We've Accomplished



AI Powered SDK Generation

AI Powered SDK Generation

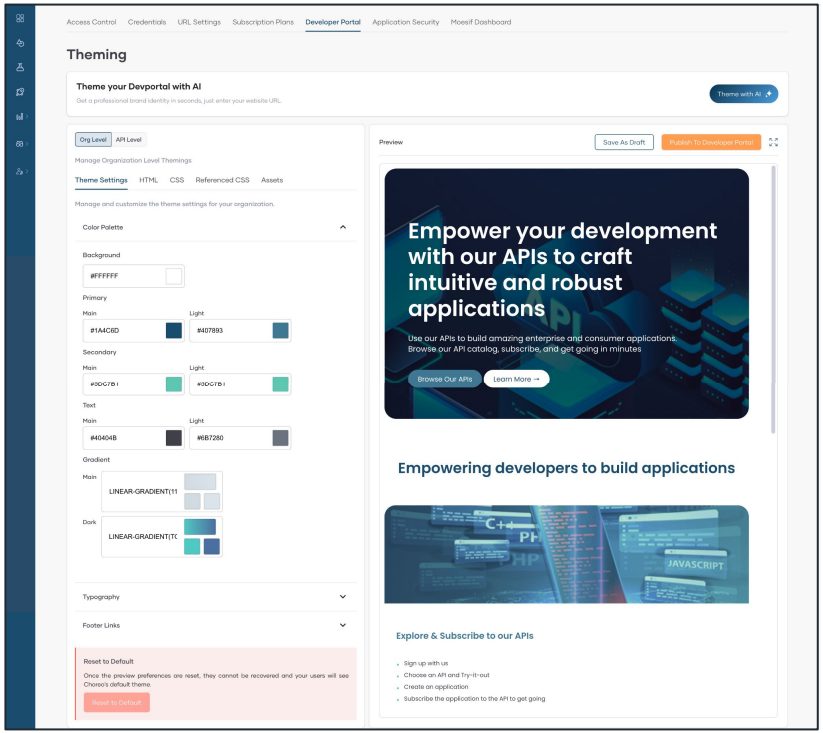
- **The Challenges**
  - Developers often deal with a **complex integration process** when working with multiple APIs.
  - The process is largely manual, requiring significant custom effort.
  - It is time-consuming, slowing down overall development cycles.
- **How AI Powered SDK Generation Fix that**
  - Generate **use case-specific SDKs**.
  - Generate **corresponding application code**.
  - Gain a **streamlined entry point** for building applications more efficiently.

AI-Powered Developer Portal Theming

AI-Powered Developer Portal Theming

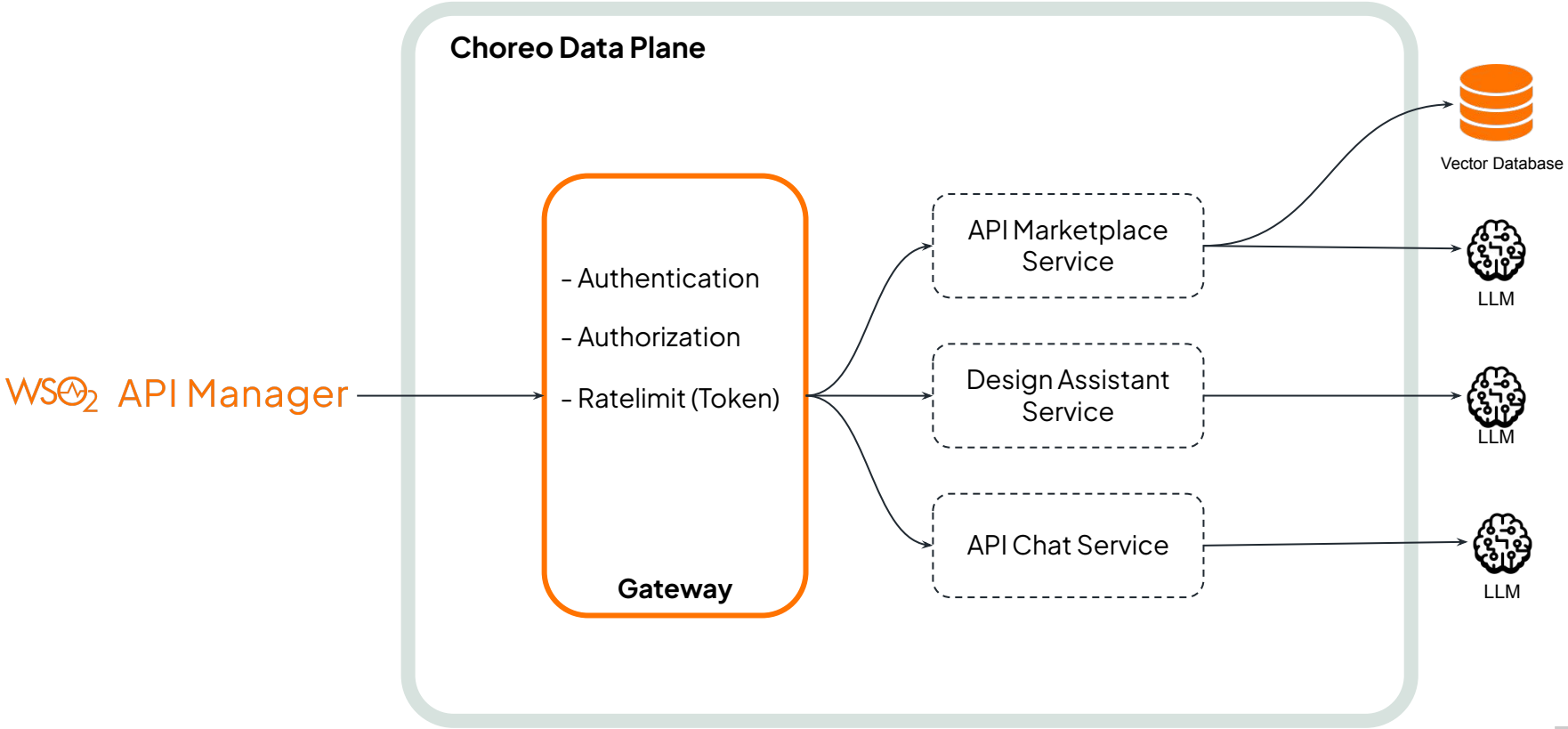
- Domain-Based Theming
  - Users provide their organization's domain for AI-driven styling.
- Brand Identity Extraction
  - AI extracts colors, fonts, and styles from the organization's website.
- Automated Customization
  - AI applies a brand-aligned theme instantly.

Note - This is currently available in Bijira (APIM SaaS)



AI Service Architecture

AI Service Architecture



Future AI-Powered Capabilities

Future AI Powered Capabilities

- **AI-Driven Documentation & Mocking**
  - Automated API OpenAPI enriching using AI
  - AI-Powered API Mocking – Auto-generates realistic mock APIs to enhance API testing workflows.
- **Agentic Unified Co-pilot**
- **AI-Driven Insights & Analytics**
- **Product REST APIs for Agent Consumption(MCP Product Rest API)**

Key Takeaways & Next Steps

Key Takeaways & Next Steps

- AI-Driven Efficiency
  - From design to governance, AI enhances automation, compliance, and security.
- Simplified API Management
  - AI-powered features streamline branding, governance, testing, and consumption.
- Stronger Security & Governance
  - AI enforces policies, detects anomalies, and optimizes CI/CD workflows.
- Apply AI in Real-World Projects
  - Leverage AI-driven API management with WSO2 API Manager.
- Next Steps
  - Explore AI-powered capabilities and integrate them into your API workflows with WSO2 API Manager.

Try WSO2's API Management Solutions Today!

- Run Anywhere
  - 🔗 WSO2 API Manager - https://wso2.com/api-manager



- WSO2 APIM SaaS - Bijira
  - 🔗 Sign Up & Explore Bijira – https://bijira.dev
  - 🔗 For more information – https://wso2.com/bijira



- Lab Session Materials
  - 🔗 https://github.com/wso2con/2025-CMB-apim-tutorial

Upcoming API Management Sessions

Upcoming API Management Sessions

- Conference Day 1 (Tuesday, July 29th)

Control Ingress and Egress Across Multiple API Gateways with WSO2 API Manager

By:
Malintha Amarasinghe
Senior Tech Lead

Krishan Wijesena
Tech Lead

Upcoming API Management Sessions

- **Conference Day 3 (Thursday, July 31st)**

WSO2 API Manager Roadmap and Vision →

Christopher Davey
Vice President & General Manager - APIM, WSO2

Bijira: API PaaS for the Cloud and AI-Native Era →

Pubudu Gunatilaka
Associate Director & Head of Architecture, APIM BU, WSO2

Managing APIs Across Federated Gateways →

Thilini Shanika
Associate Director and Head of Engineering, APIM BU, WSO2

What You Can Do with the AI Gateway →

Arshardh Ifthikar
Technical Lead, WSO2

Modern Enterprise Architecture with APIs →

Vidura Gamini Abhaya
Vice President, Solutions Architecture, WSO2

Customer Panel: Journeys in Enterprise Modernization Through API Management →

Question Time!




Thank you!
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