WSO2CON NORTH AMERICA

May 20 - 22, 2026 | Austin, Texas, USA

Hybrid Architecture and Multi-Gateway Control

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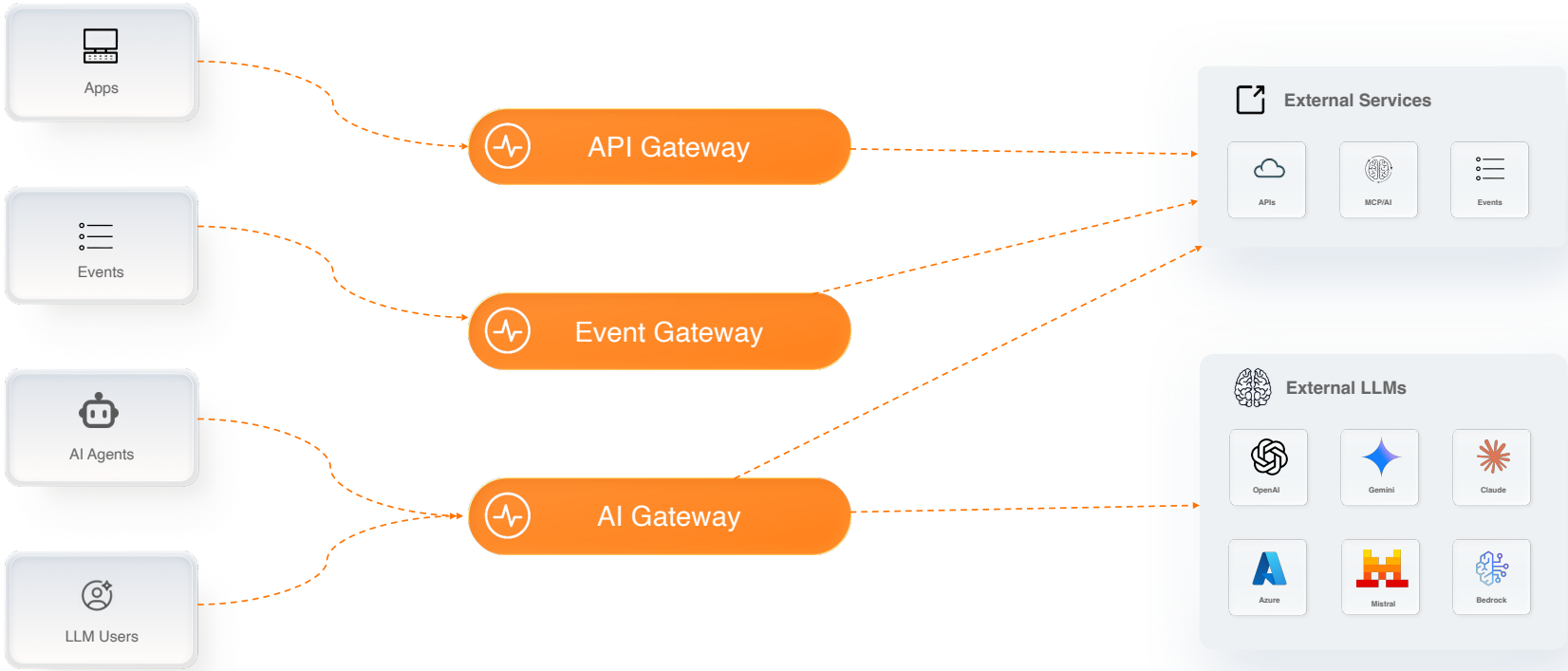
The Single Gateway Model is Reaching Its Limits



Modern Architectures Demand More

Infrastructure Complexity

- Multi Cloud
- Hybrid (Cloud + On-prem)
- Edge Deployments

Compliance & Performance

- Data residency
- Low latency
- Regional routing

API Diversity

- REST APIs
- Event APIs
- AI / Agent APIs

Organizational Scale

- Team autonomy
- Business-unit ownership
- Independent release cycles

Hybrid Architecture

Hybrid Architecture

Combining multiple deployment models to meet business and technical needs.

Cloud + On-prem

Purpose

Mix agility with legacy integrations

Example

SaaS + Internal systems

Managed + Self Hosted

Purpose

Balance convenience and control

Example

Managed gateways + Kubernetes native gateways

Edge + Regional

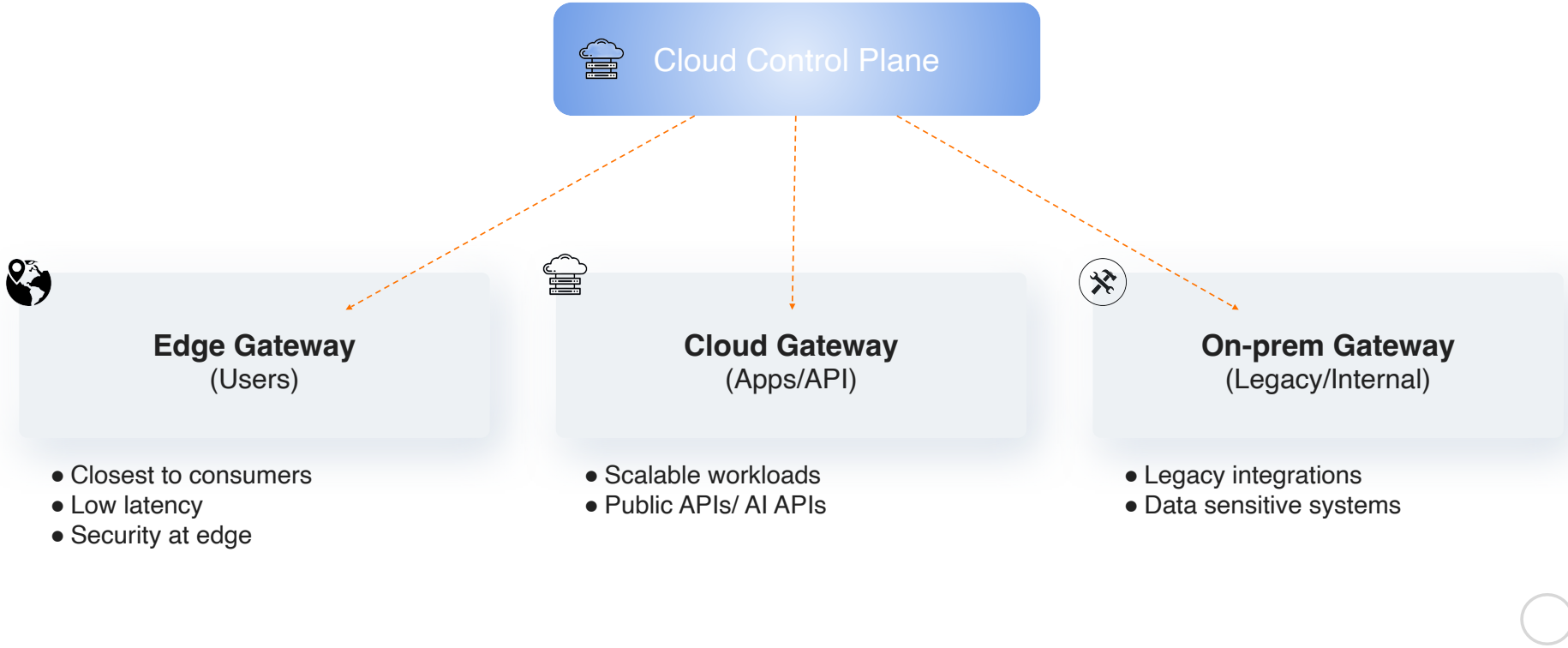
Purpose

Improved latency and compliance

Example

Country/region specific deployments

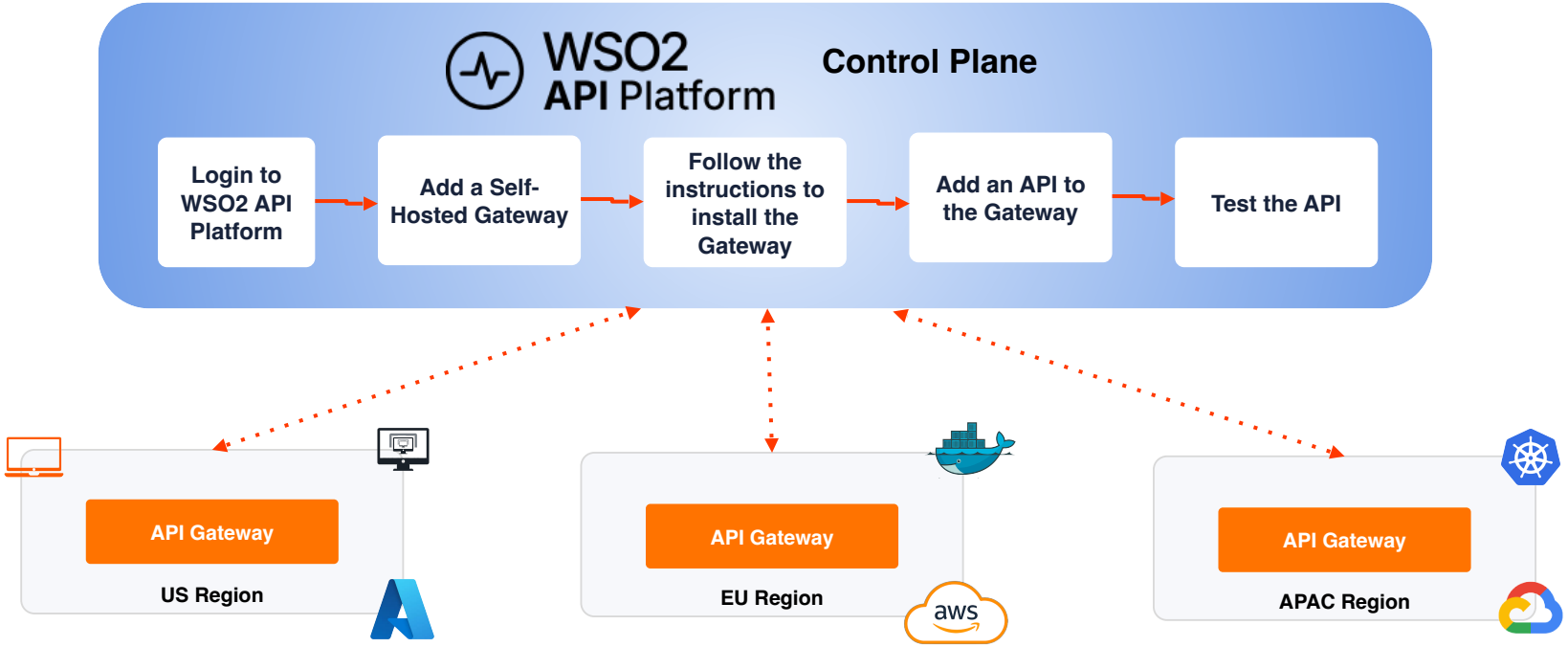
A Distributed Runtime with Centralized Control



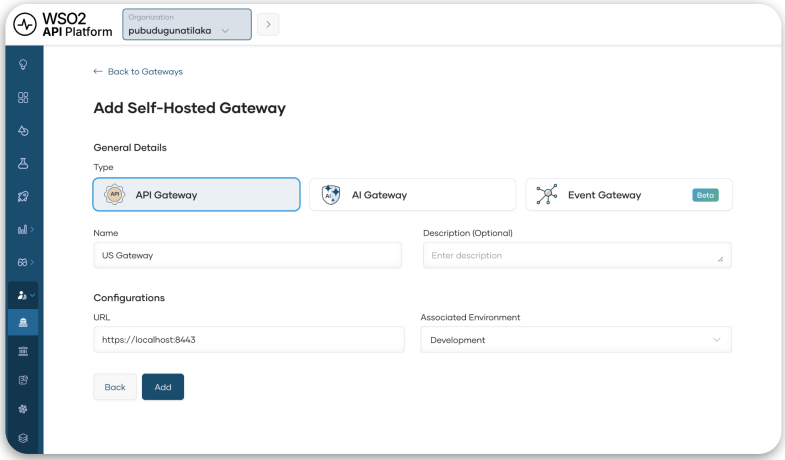
Introducing Self-Hosted Gateways for the WSO2 API Platform

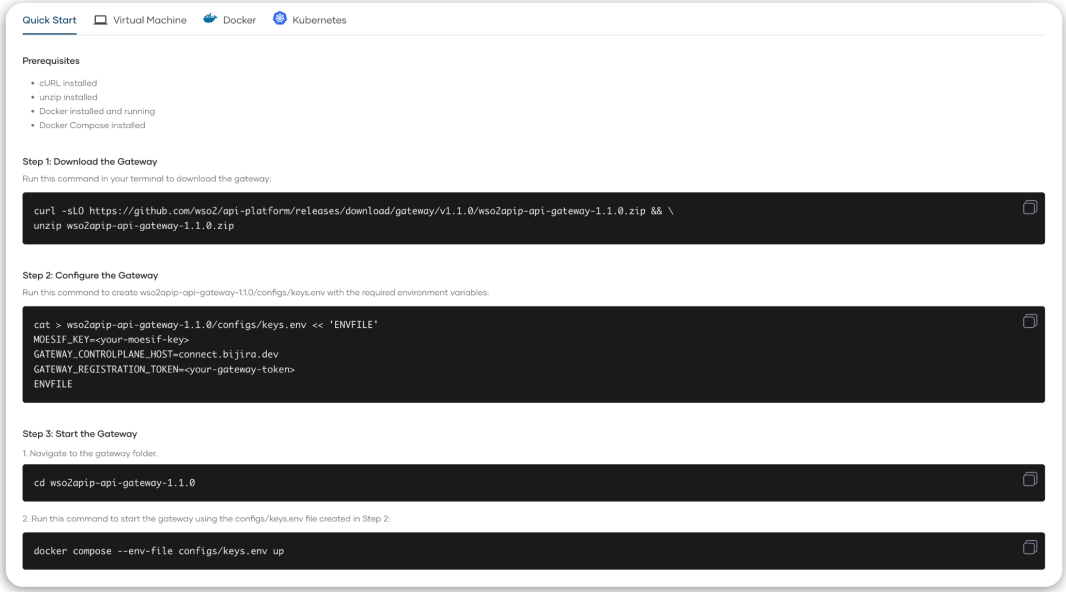
WSO2

Self Hosted Gateways

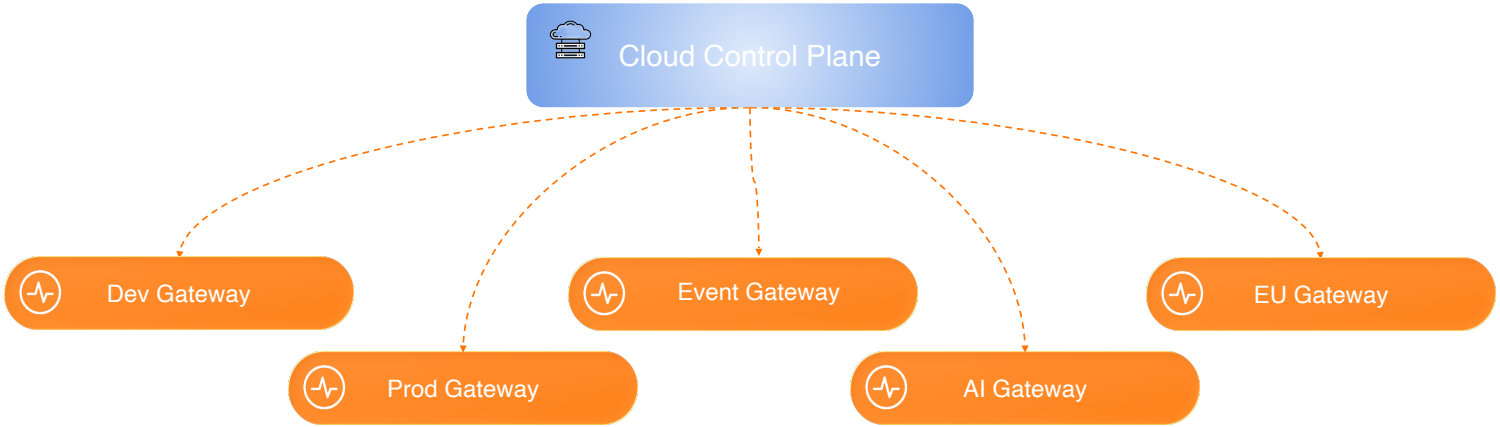


Self Hosted Gateways...





Self Hosted Gateways…



Environment Based

- Dev / Test / Prod
- Regional Deployments

Workload Based

- REST / GraphQL APIs
- Event / Streaming APIs
- AI / MCP APIs

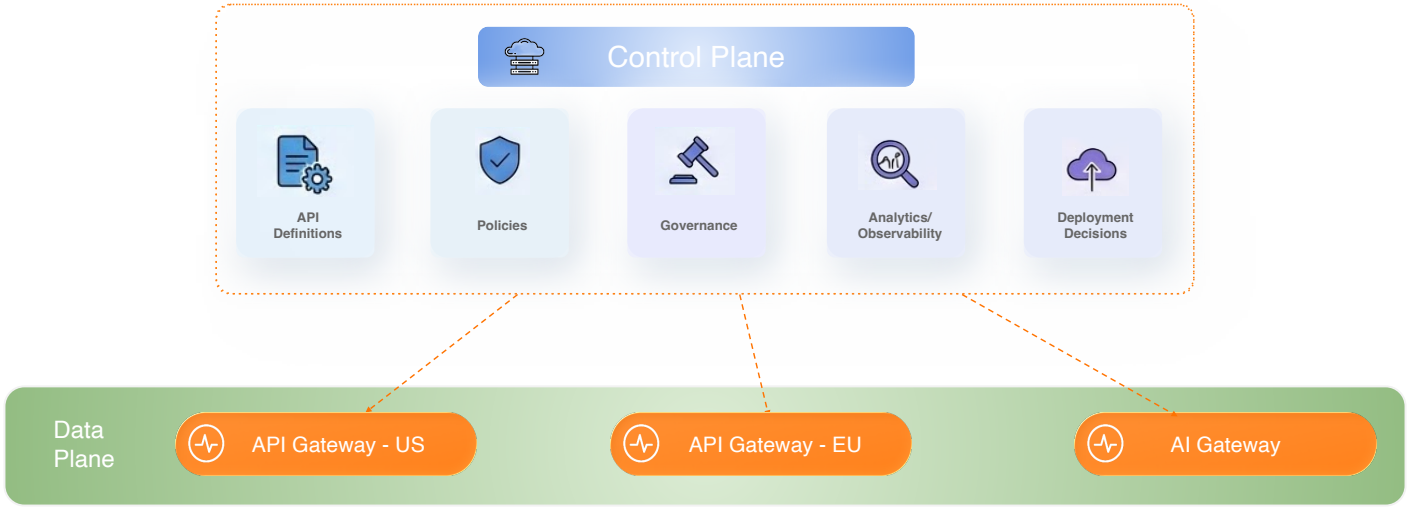
Team Based

- Business unit ownership
- Independent release cycles

Specialized Gateways

- AI Gateways
- Event Gateways
- Internal only Gateway

Centralized Control, Decentralized Execution



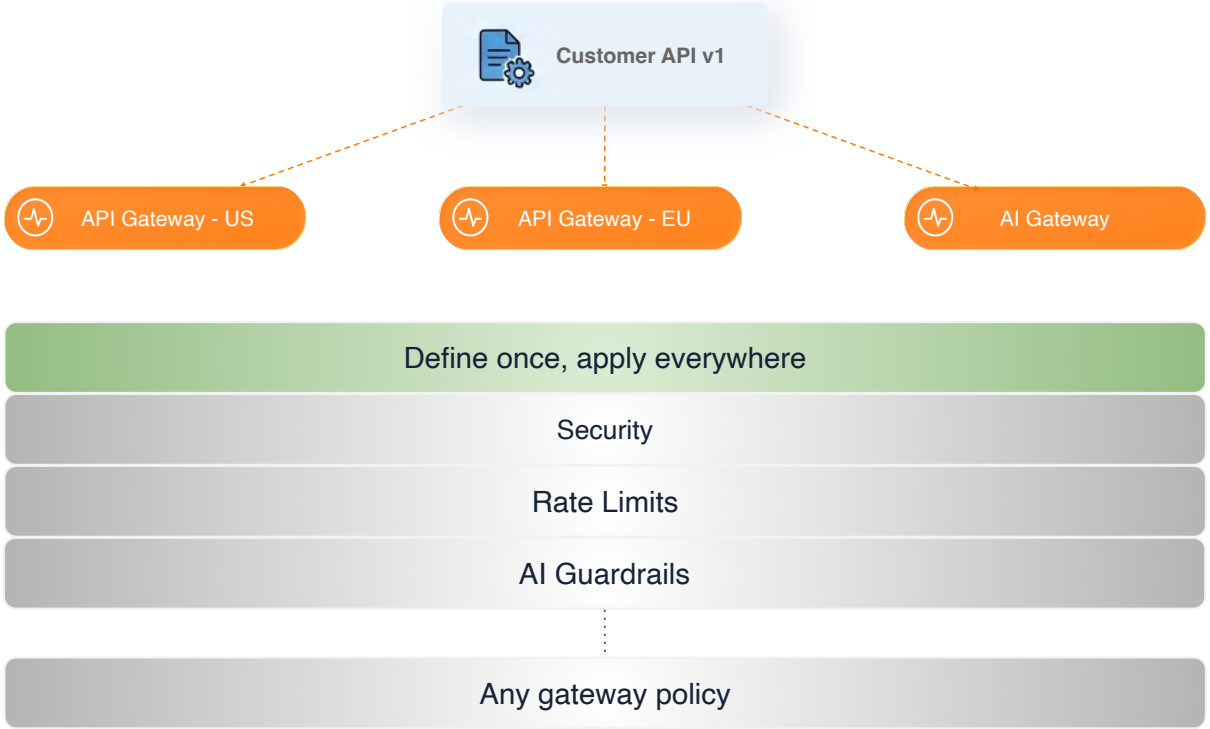
Control Plane Functionality

- Design and publish APIs
- Define policies
- Manage lifecycle/versioning
- View Analytics centrally
- Decide where APIs get deployed

Data Plane Functionality

- Receive requests
- Enforces policies locally
- Routes/ transforms traffic
- Handles region specific traffic

One API Definition, Many Deployments

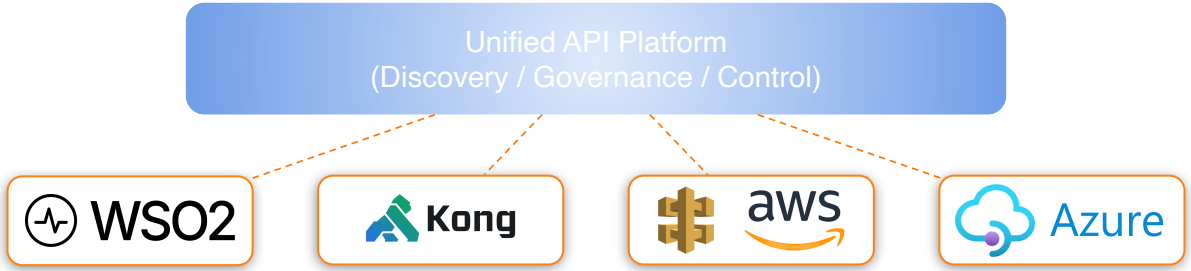


Selective Deployments

- Region based
  - US only
  - EU only
- Environment based
  - Dev / Prod
- Gateway type based
  - AI Gateway
  - Event Gateway

Govern Traditional APIs and AI APIs under the same Platform

Gateway Federation: Unifying Distributed API Gateways



Plug Any Gateway

Federate existing gateway solutions instead of replacing them.

- Avoid vendor lock-in
- Preserve existing investments

Central API Discovery

Single discovery point for API consumers:

- Unified API Catalog & Developer Portal
- Search APIs across federated gateways
- One place to discover, subscribe, and access APIs

Unified Access Layer

- Consistent API Catalog
- Unified governance and lifecycle visibility
- Standardized onboarding experience

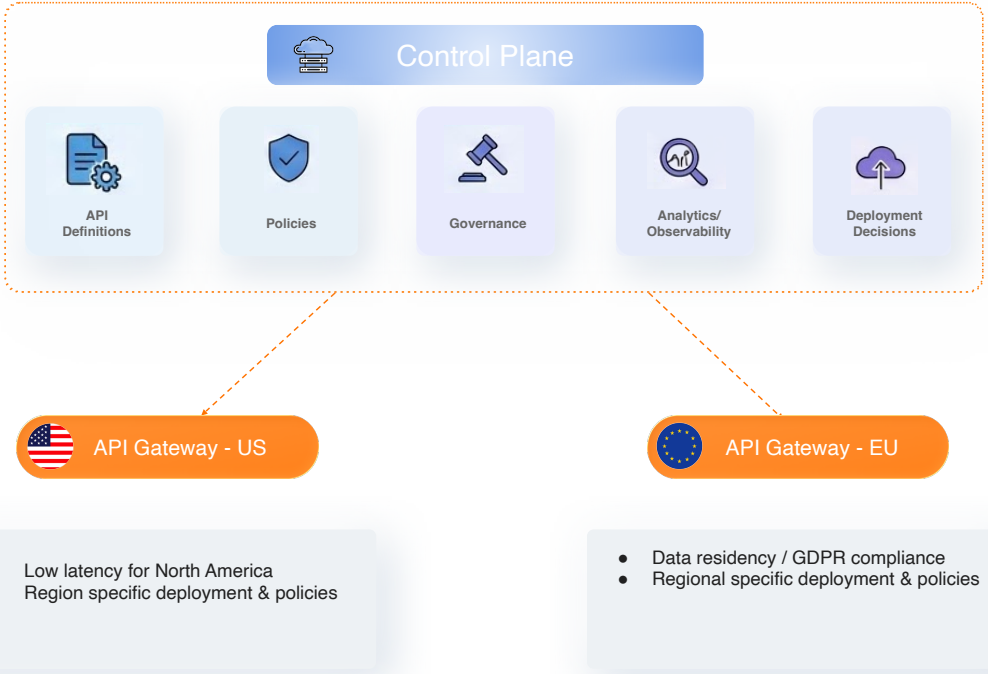
Unified Visibility

Observe APIs across gateways

- Centralized Analytics
- Centralized Observability

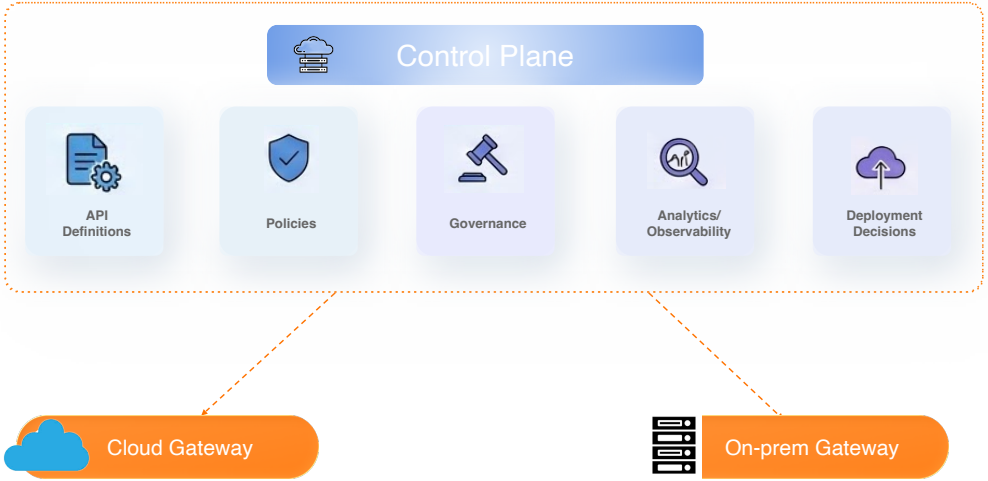
Use Cases

Use Case: Multi-Region SaaS APIs



Global APIs with local compliance and performance

Use Case: Hybrid Enterprise Integration



- Mobile / Web apps
- Partner APIs
- Internet facing services

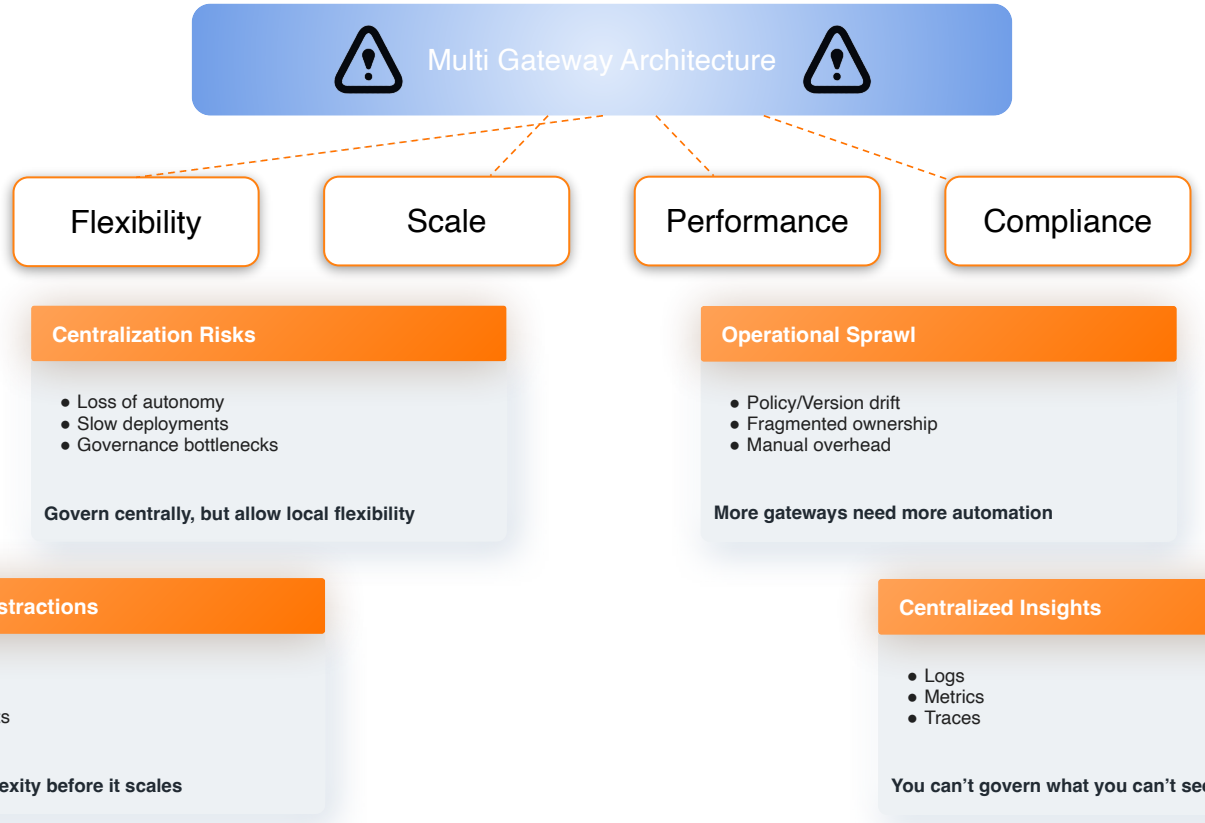
- ERP / CRM and internal systems
- Private network access
- Sensitive workloads

Modernize externally, integrate internally

Use Case: AI + Traditional APIs

Separate runtimes, unified governance

Lessons Learned & Common Pitfalls



Key Takeaways

🌐 **Hybrid Architectures are the New Reality**

Cloud, on-prem, edge, and AI runtimes now coexist.

🧠 **Centralized Control Enables Distributed Gateways**

Govern APIs, policies, and deployments without centralizing traffic.

🔌 **Gateway Federation Reduces Fragmentation**

Unify discovery, governance, and visibility across heterogeneous gateways.

🤖 **Future Gateways Will Be AI-Aware and Policy-Driven**

API gateways are evolving into intelligent distributed runtimes.

Question Time!

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Thank You!