WSO2CON NORTH AMERICA

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

Securing AI Traffic: PII Masking, Prompt Guardrails, & Data Sovereignty

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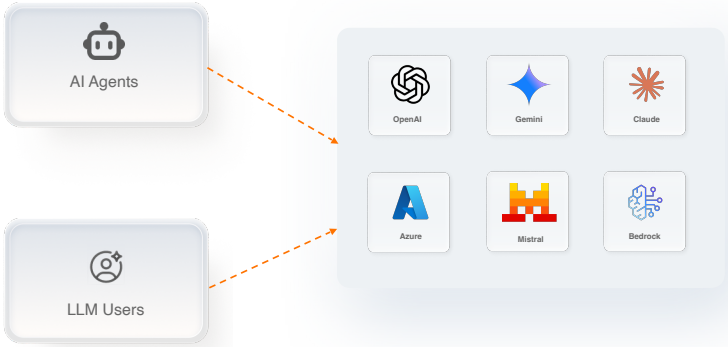
Every Team Wants AI. Few Organizations Control AI Traffic.



- Teams directly integrate with LLM providers
- API keys are embedded in apps
- Different teams choose different models
- AI usage grows without oversight

Enterprise Risks

🔐 **Security:**

PII leakage, Prompt injection

💰 **Cost:**

Token spikes, No spend visibility

🏛️ **Governance:**

No audit trails, No policies

⚠️ **Reliability:**

Vendor lock-in, Provider outages

AI Gateway

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AI Gateway = Control Plane for AI Traffic

WSO2 AI Gateway

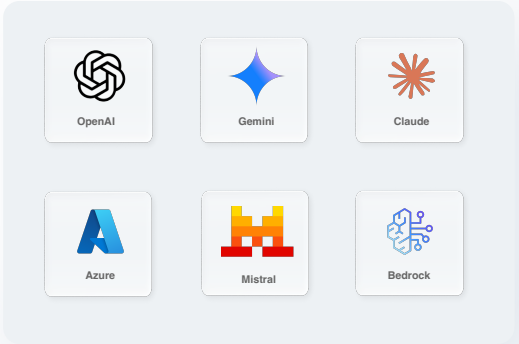
- Protect data and content
  With rigorous AI guardrails for PII and content safety
- Controls LLM cost
  Chargeback LLM usage to departments
- Gain business insights
  Understand and optimize your LLM usage
- Optimize LLM usage
  Through semantic caching and adaptive routing

Secure Connectivity to AI Backend Services

LLM Provider

Connects the AI Gateway to AI backend services such as OpenAI, Azure OpenAI, and other LLM providers.

Centrally Managed by **Administrators.**



What does the LLM Provider define?

Connectivity

- Upstream endpoint URL
- Model access

Security

- API Keys / Credentials
- Access control policies

Governance

- Organization-wide guardrails
- PII masking

Budget Controls

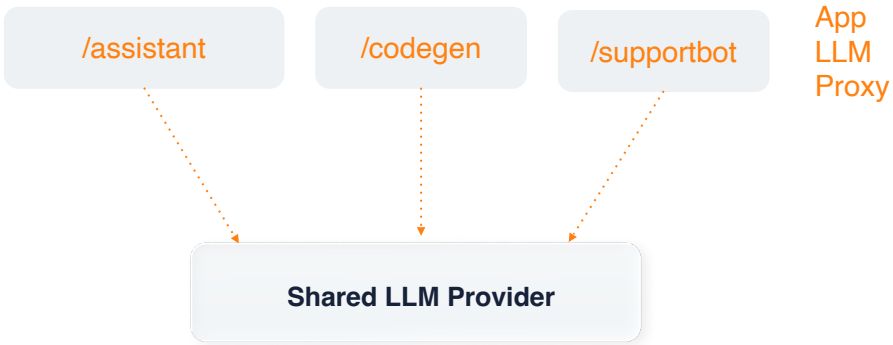
- Token rate limits
- Cost caps
- Usage restrictions

AI App Specific Controls

App LLM Proxy

Custom AI API endpoints built on shared LLM Providers, inheriting centralized security, access control, budgeting, and organization-wide policies.

Create by **Developers.**



Developer Flexibility

- Create App specific AI Endpoints
- Define Prompt templates
- Customized policies

Enterprise Governance

- Reuse centralized security
- Inherit access controls
- Share provider budgets

Reusability

- Multiple applications share one provider
- Avoid duplicate provider configurations

What can go wrong with AI traffic?

AI Guardrails and Policies

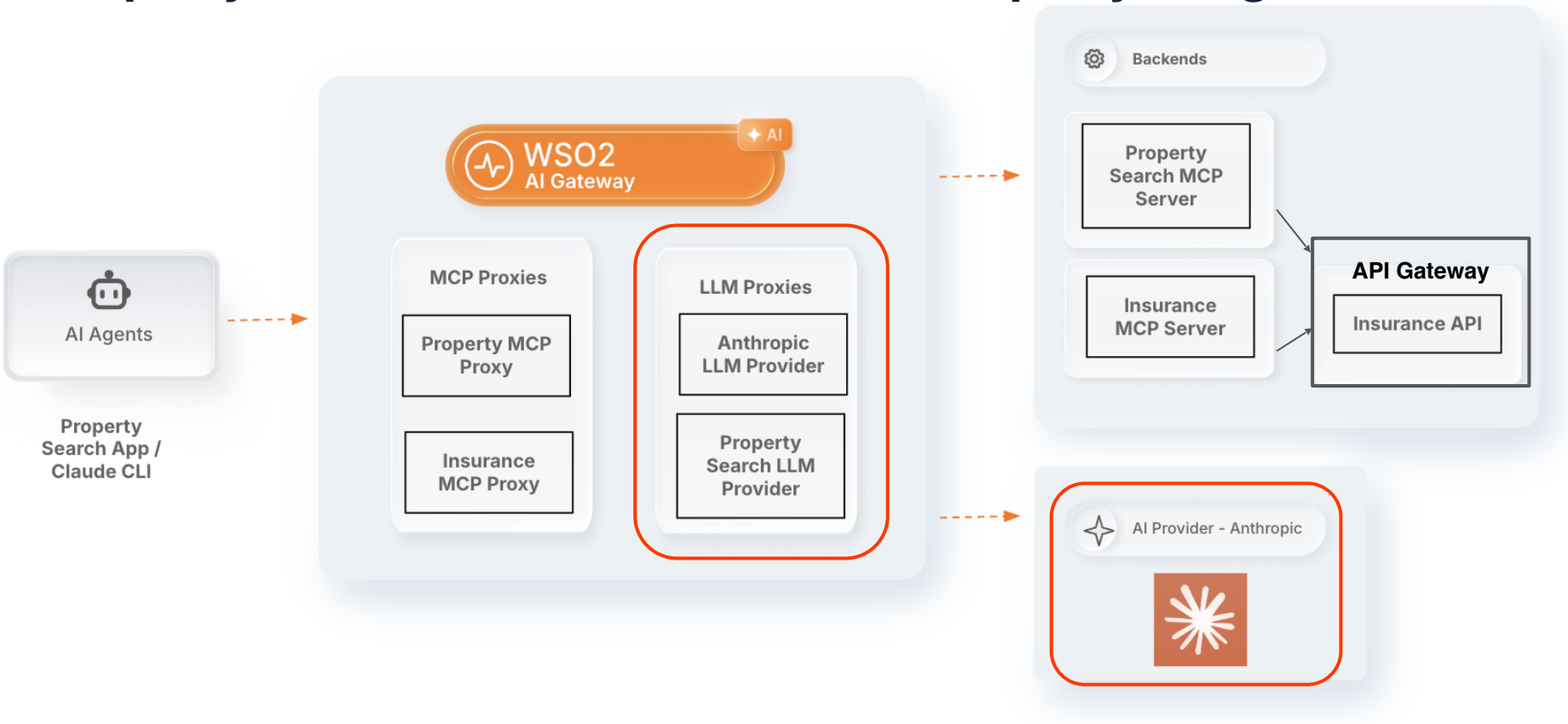
Category	Capabilities
Safety Guardrails	PII masking & redaction, Toxicity filtering, Jailbreak prevention, Harmful content filtering, Role & tone controls, Semantic prompt validation
Security Guardrails	Authentication & access control, prompt injection protection, schema validation, URL validation, provider credential isolation
Governance Guardrails	Organization-wide policy enforcement, audit logging, anomaly monitoring, centralized visibility, compliance enforcement
Operational Guardrails	Rate limiting, throttling, retries, quotas, semantic caching, traffic prioritization
Cost Guardrails	Token-based rate limiting, token budgets, spend caps, department-level chargeback, AI usage tracking
Routing Guardrails	Multi-model routing, failover routing, weighted round robin, adaptive routing, traffic steering

New Policy Hub with 40+ AI Guardrails and Policies

https://wso2.com/api-platform/policy-hub/

Use Case Overview

Property Search Use Case for “Lux Property” Organization



Personas

User	Role	Responsibility
Admin (WSO2 Demo User)	Org Admin	Manage AI Gateways, configure LLM Providers, enforce security policies, guardrails, budgets, and access controls.
Larry (Dev User)	App Developer	Create App LLM Proxies, configure application-level guardrails, policies, manage prompts, and build AI-enabled applications

Demo - Part 1

Demo - Part 1 Recap

STEP 01

AI Workspace Intro

Started from the API Platform and introduced AI Workspace.

STEP 02

AI Gateway

Installed and configured the AI Gateway.

STEP 03

LLM Provider

Added an LLM provider to the ecosystem.

STEP 04

Security, Guardrails & Policies

Applied security and reusable guardrail policies to ensure safe AI interactions.

STEP 05

Test Governed LLM Access

Tested governed access with key demonstrations:

- PII masking capabilities
- Prompt-level protection policies

AI Adoption at Scale

Access Control

Who can access which models?

Cost Governance

How do we prevent uncontrolled token spend?

Reliability

What happens if a provider becomes unavailable?

Team Isolation

How do we separate teams and applications?

Visibility

Who is consuming the most tokens?

Centralized Governance with Team-Level Controls

Per LLM Provider Controls

- Request count rate limits
- Token based rate limits
- Cost based budgets

Per Consumer Controls

- Application based
- User based
- Custom

Why AI Routing Matters in Enterprises

Enterprise AI Reality

layersnemulti_har

Multi-LLM Adoption

Teams choosing diverse providers and models independently.

tune

Task Specificity

No single model fits all. Different use cases require different LLMs.

update

Market Volatility

Rapid changes in LLM pricing, latency, and availability.

Enterprise Risks

link_off

Vendor Lock-in

Applications tightly coupled to specific LLM providers.

report_problem

Zero Resilience

No failover or fallback when models are slow or down.

trending_up

Cost & Overhead

Unpredictable costs and massive rework to adopt new models.

Multi Provider & Multi Model Routing

🔄 Multi-Provider Routing

Route across different LLM providers

🧠 Multi-Model Selection

Choose model based on task type

⚡ Failover Routing

Automatic fallback if provider fails

💰 Cost-Based Routing

Route cheaper models for low priority tasks

Semantic Caching

Reduce cost and latency by reusing AI responses intelligently.

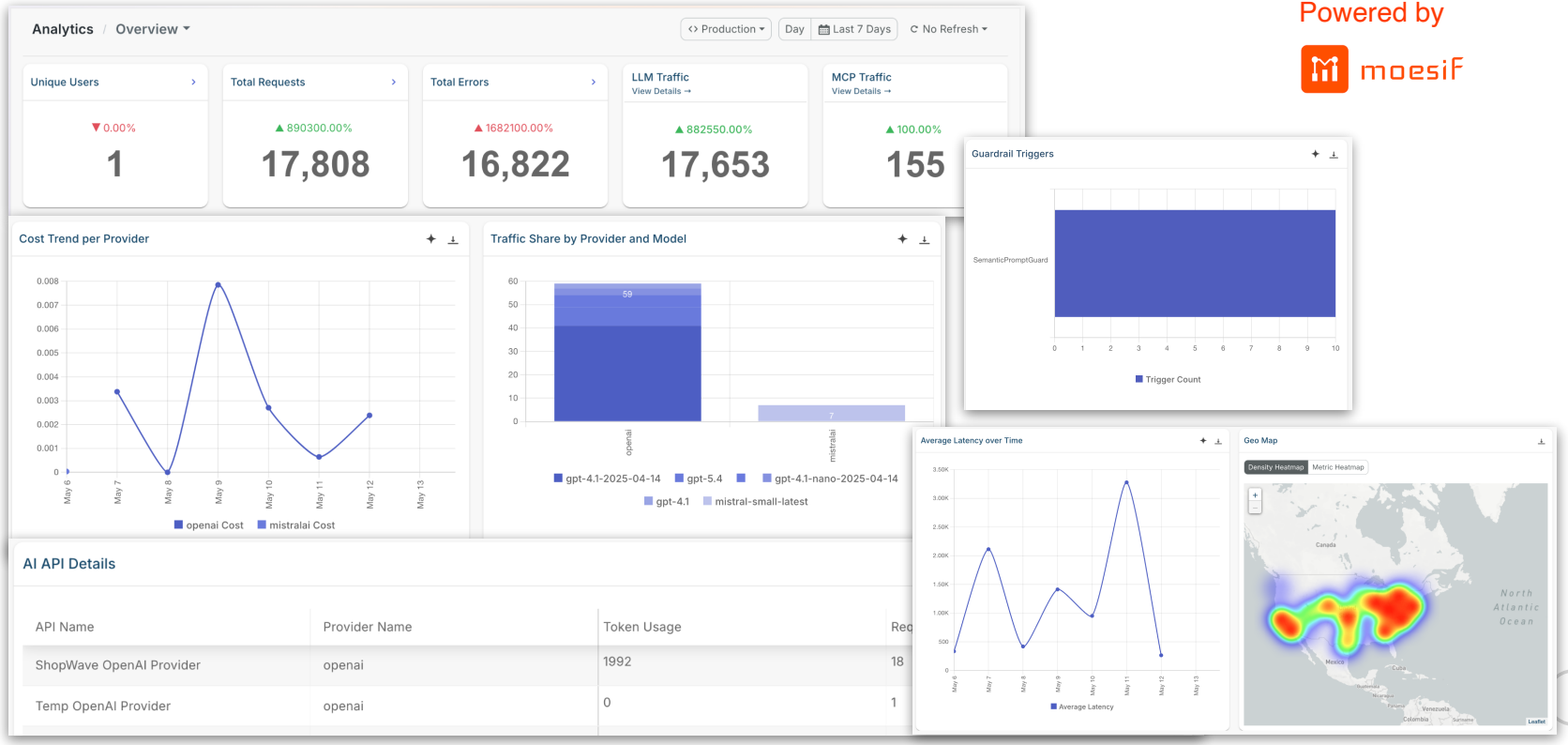
- Matches meaning, not exact text.
- Reuses responses for similar prompts
- Avoids redundant LLM calls

Key Benefits

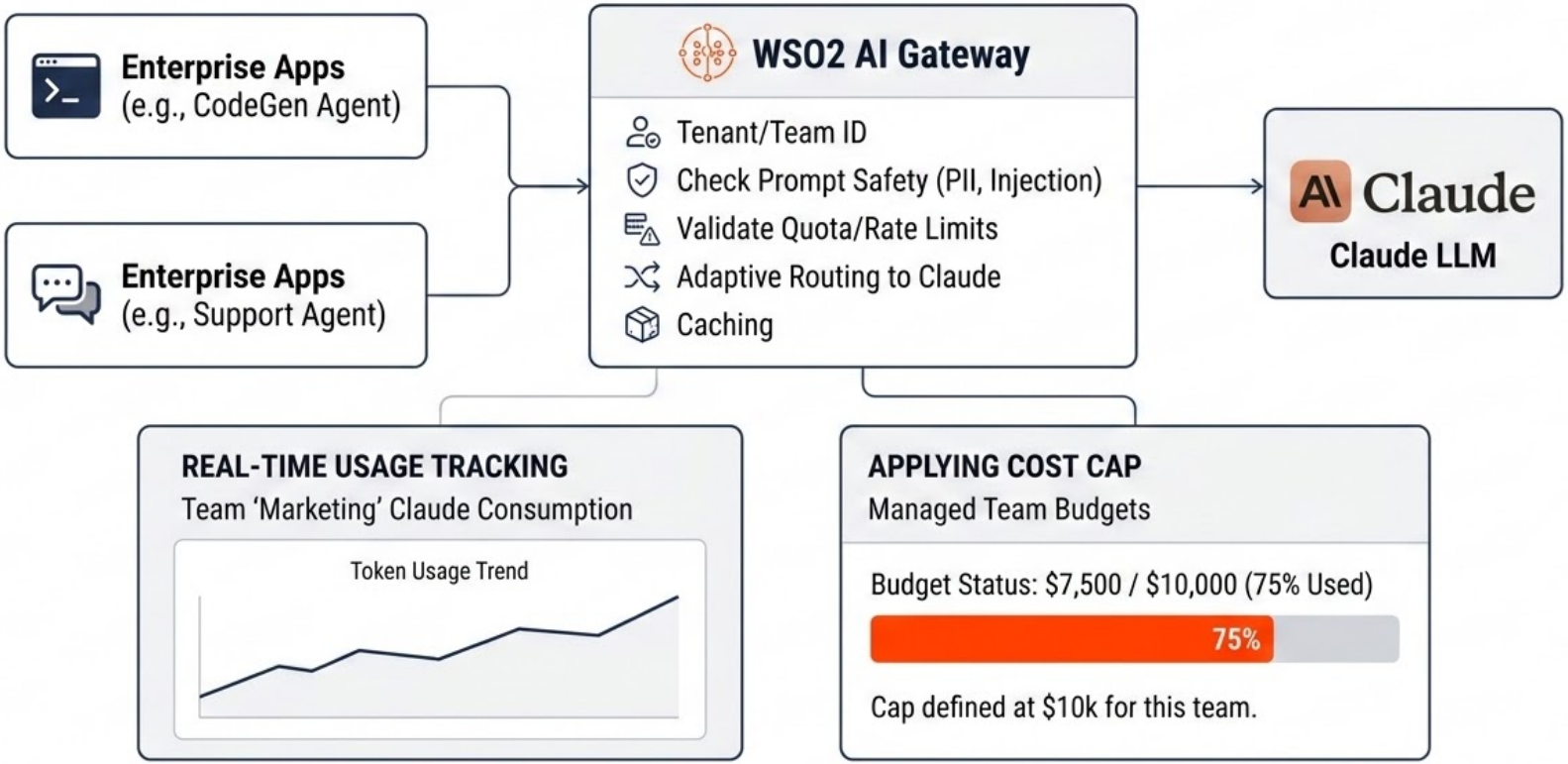
- Cost Optimization
  - Reduces repeated token usage
  - Lower LLM provider costs
- Performance Improvement
  - Faster response times
  - Reduced latency
- Efficiency at Scale
  - Handles enterprise patterns
  - Optimizes high-traffic

AI Analytics

Powered by moesif



Demo Use Case: Centralized Control for Claude AI Agents



Demo - Part 2

Demo - Part 2 Recap

STEP 01

Rate Limits & Cost Caps

Applied rate limits and cost caps for token-level governance

STEP 02

LLM provider access

Demonstrated Gen AI App flow - Generated controlled gateway keys instead of exposing provider keys for relevant use cases.

STEP 03

Developer experience of consuming LLM provider

Connected Claude Code/CLI through the AI Gateway

STEP 04

Insights

Reviewed insights for usage, consumption, and visibility

Enterprise Governance Alone is Not Enough

Prompt Duplication:
Every team writes and manages prompts differently

Inconsistent AI Behavior:
Applications generate different outputs for the same task

No Reusable AI APIs:
Developers repeatedly integrate the same LLM workflows

Limited Application Controls:
Different applications require different guardrails and prompts

Tight Coupling to Providers:
Applications become dependent on provider-specific behavior

App LLM Proxy as a Developer Abstraction

App LLM Proxy

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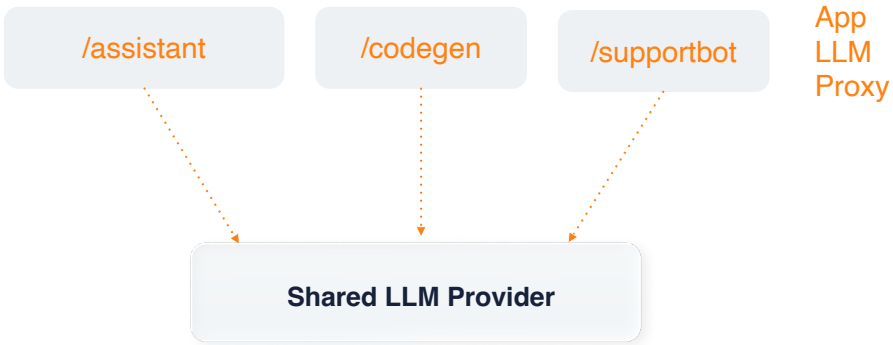

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Common Use Cases for App LLM Proxies

AI Assistants

- Enterprise chatbots
- Internal copilots

Code Generation

- Developer assistants
- Secure coding workflows

Prompt Standardization

- Reusable enterprise prompts
- Centralized AI instructions

Controlled AI Access

- Application level guardrails
- Team specific AI policies

Prompt Management

Prompt Template

Apply reusable prompt templates dynamically before requests are sent to the LLM.

Enables

- Standardized prompts
- Consistent AI behavior
- Reusable enterprise prompt patterns

Prompt Decorator

Dynamically enrich or modify prompts using configurable decoration strategies.

Enables

- Injecting instructions
- Adding organizational context
- Appending compliance guidance
- Standardizing system prompts

Prompt Compressor

Compress selected prompt regions before upstream LLM calls.

Enables

- Reduced token usage
- Lower AI costs
- Optimized large prompts
- Selective compression using tags and JSONPath targeting

Application Level Guardrails

Different Applications Need Different Controls

AI Application	Guardrails
Customer Support Bot	Toxicity filtering, PII masking
Internal Coding Assistant	Prompt validation, Access control
Finance AI Assistant	Strict compliance policies
HR Assistant	Sensitive data protection

Demo - Part 3

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Demo - Part 3 Recap

STEP 01

App LLM Proxy

Created an application-level LLM proxy

STEP 02

Application Specific Guardrails

- Applied business app specific prompt guardrails
- Used prompt templates and decorators to standardize AI interactions

STEP 04

Testing

App LLM Proxy use case testing

STEP 05

Insights

Showed how AI behavior can be secured, reusable, and observable at runtime

Observability

Observability Need	Product Capability
📊 Usage & consumption tracking	Analytics dashboards
💰 Token & cost visibility	Token and cost analytics
👤 Access tracking	Access logs
🛡️ Guardrail violation visibility	Guardrail violation logs
📜 Policy enforcement visibility	Policy event monitoring
⚡ Error & failure monitoring	Error logs and tracing
🚦 Rate limit monitoring	Throttling & quota events
🔄 Routing & failover visibility	Gateway tracing & operational logs
⏱️ Provider latency monitoring	Upstream latency metrics
🏛️ Audit & compliance visibility	Audit logs

Deployment Flexibility & Data Sovereignty ability

☁️ Cloud

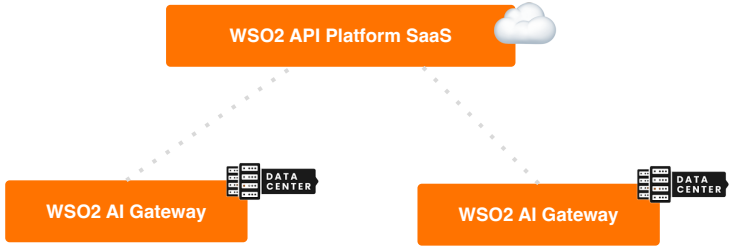
Deploy in public cloud environments

🏢 Private Infrastructure

Run within private data centers or VPCs

🌍 Hybrid Architectures

Combine cloud and on-prem deployments



Data Sovereignty Benefits

🔐 Private AI Traffic

AI requests flow through infrastructure you control

📊 Local Observability

Metrics and analytics remain inside your boundary

🛡️ Compliance

Support regional and organizational data requirements

🏢 Enterprise Governance

Retain control over AI traffic handling

Key Takeaways & Next Steps

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Key Takeaways

🔐 AI Gateways Secure and Govern AI Traffic

Apply guardrails, access control, and policy enforcement across all LLM interactions.

💰 Centralized AI Governance Controls Cost and Usage

Manage token budgets, rate limits, analytics, and multi-team AI consumption at scale.

👩‍💻 App LLM Proxies Enable Developer-Friendly AI APIs

Build reusable, governed, and application-specific AI abstractions on shared infrastructure.

🏢 Deployment Flexibility Enables Enterprise AI Adoption

Run AI gateways anywhere while maintaining observability, compliance, and data sovereignty.

Try WSO2 AI Gateway Today!

- WSO2 API Platform SaaS
  - 🔗https://wso2.com/api-platform/

- Run Anywhere
  - 🔗https://wso2.com/api-platform/ai-gateway/

Lab Session Materials

- 🔗 https://github.com/wso2con/2026-AUS-api-platform-tutorial

Upcoming API Management Sessions

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Upcoming API Management Sessions

Day 3 (May 22)

09:00 a.m. (30 mins)

Designing APIs & MCP for AI Readiness

Nuwan Dias
Vice President & Deputy Chief Technology Officer - API Management and Integration BUs

WSO2

Red Room

09:30 a.m. (30 mins)

Hybrid Architecture and Multi-Gateway Control

Pubudu Gunatilaka
Director - Engineering

WSO2

Red Room

10:00 a.m. (30 mins)

AI Cost Attribution & Optimization for LLM Consumption

Anusha Jayasundara
Senior Technical Lead

WSO2

Red Room

Question Time!

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Thank You!

Enterprise AI Requires More Than Just Access to LLMs

security

Secure AI Traffic

Protecting data in transit and mitigating risks.

gavel

Centralized Governance

Unified policies and compliance controls.

monetization_on

Cost Visibility

Monitoring and managing LLM expenditure.

code

Dev-Friendly AI Infra

Seamless integration for rapid development.

cloud_sync

Deployment Flexibility

Multi-cloud and hybrid hosting options.

public

Data Sovereignty

Maintaining control over regional data residency.

AI Gateway becomes the **foundation** for enterprise AI platforms.