20TH ANNIVERSARY EDITION

WSO2CON ASIA

PLATFORMLESS MODERNIZATION

Managing APIs Across Federated Gateways

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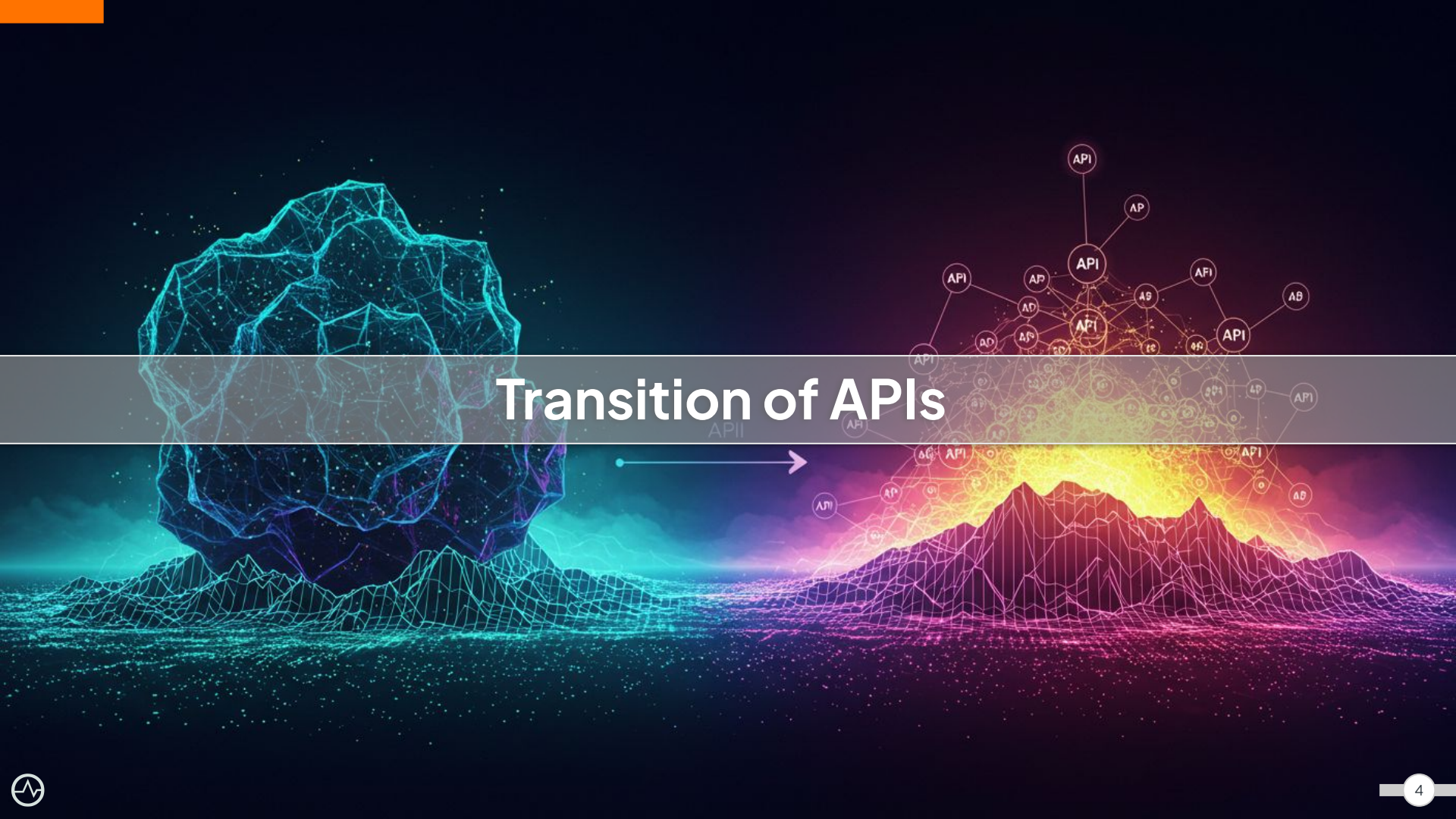
APIM BU

WSO2

The Evolving API Landscape

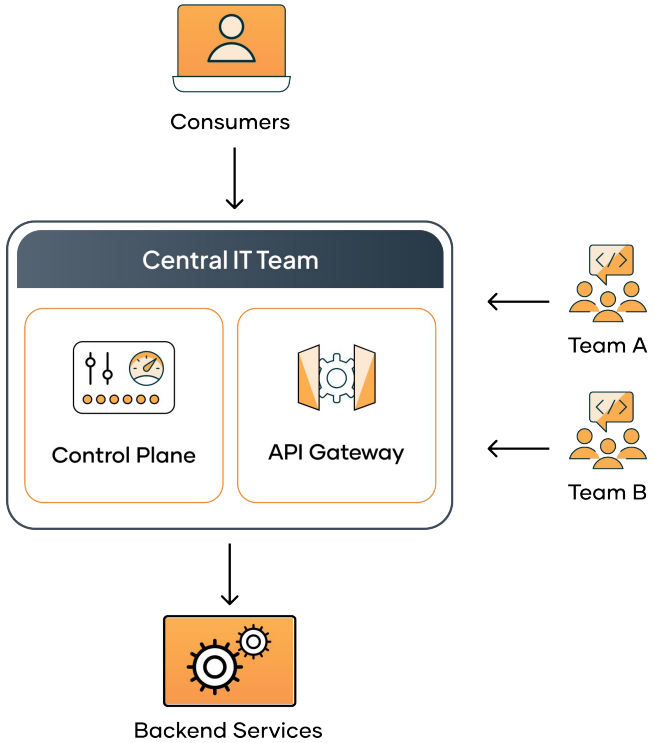
Transition of APIs



The Traditional API Management

The Monolithic Approach – Centralized API Management

A central team handles full API lifecycle management (infra, config, policy, governance) for the entire organization, with lines of business delegating responsibilities.



Centralized API Management – Benefits and Challenges

Benefits

- Unified governance
- Centralized policy enforcement
- Unified view for all assets
- Better API consumability and reuse
- Developers are freed from infra complexity

.

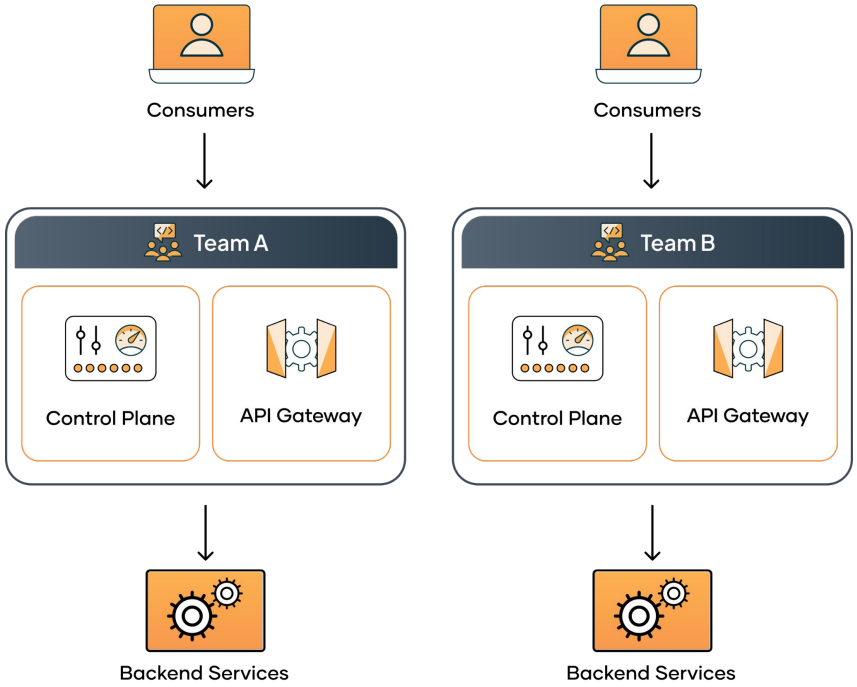
Challenges

- Bottlenecks
- Lack of Agility
- Single Point of Failure
- Scalability Limitations
- Technology Lock-in

Is Decentralization the solution?

The Fragmented Approach: Decentralized API Management

Individual teams or business units autonomously manage their own APIs without a central governing body or shared framework.



Decentralized API Management – Benefits and Challenges

Benefits

- Full isolation & Local Optimization
- Increased agility and faster time-to-market
- Best-fit Technologies
- Enhanced Resilience

Challenges

- API Sprawl & Fragmentation
- No reuse/duplication of Effort
- Inconsistent Standards and Security Controls
- Lack of Holistic View
- Discovery Challenges

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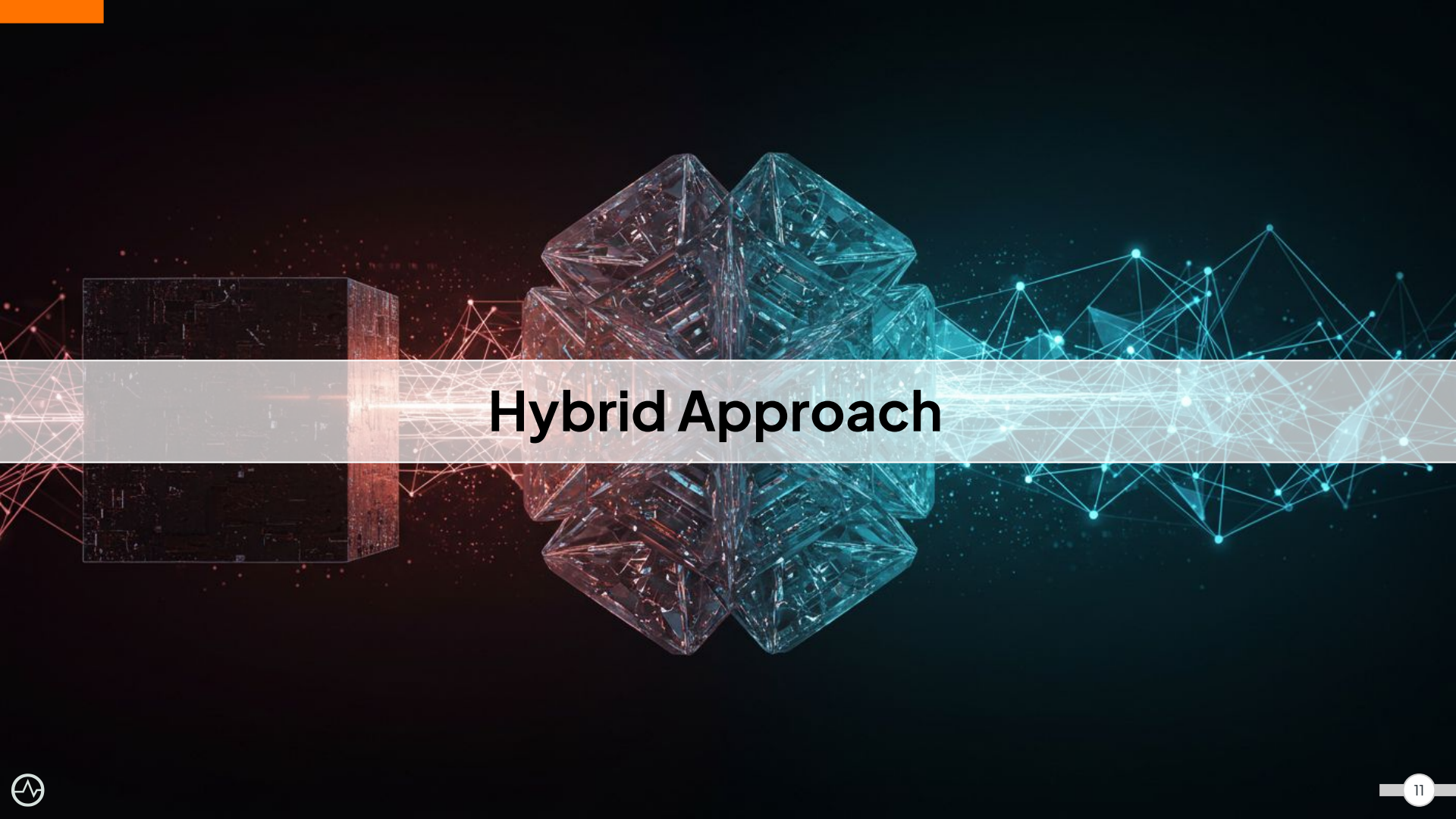
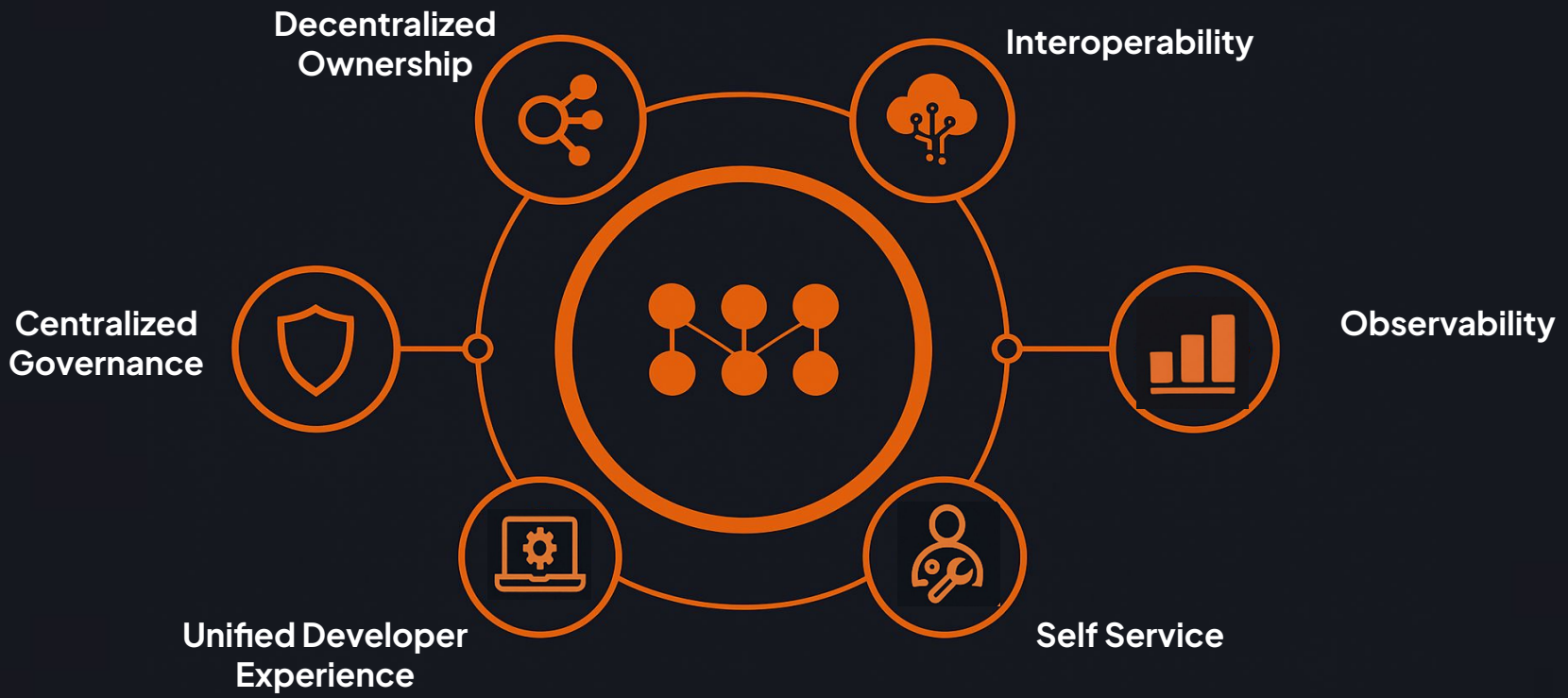
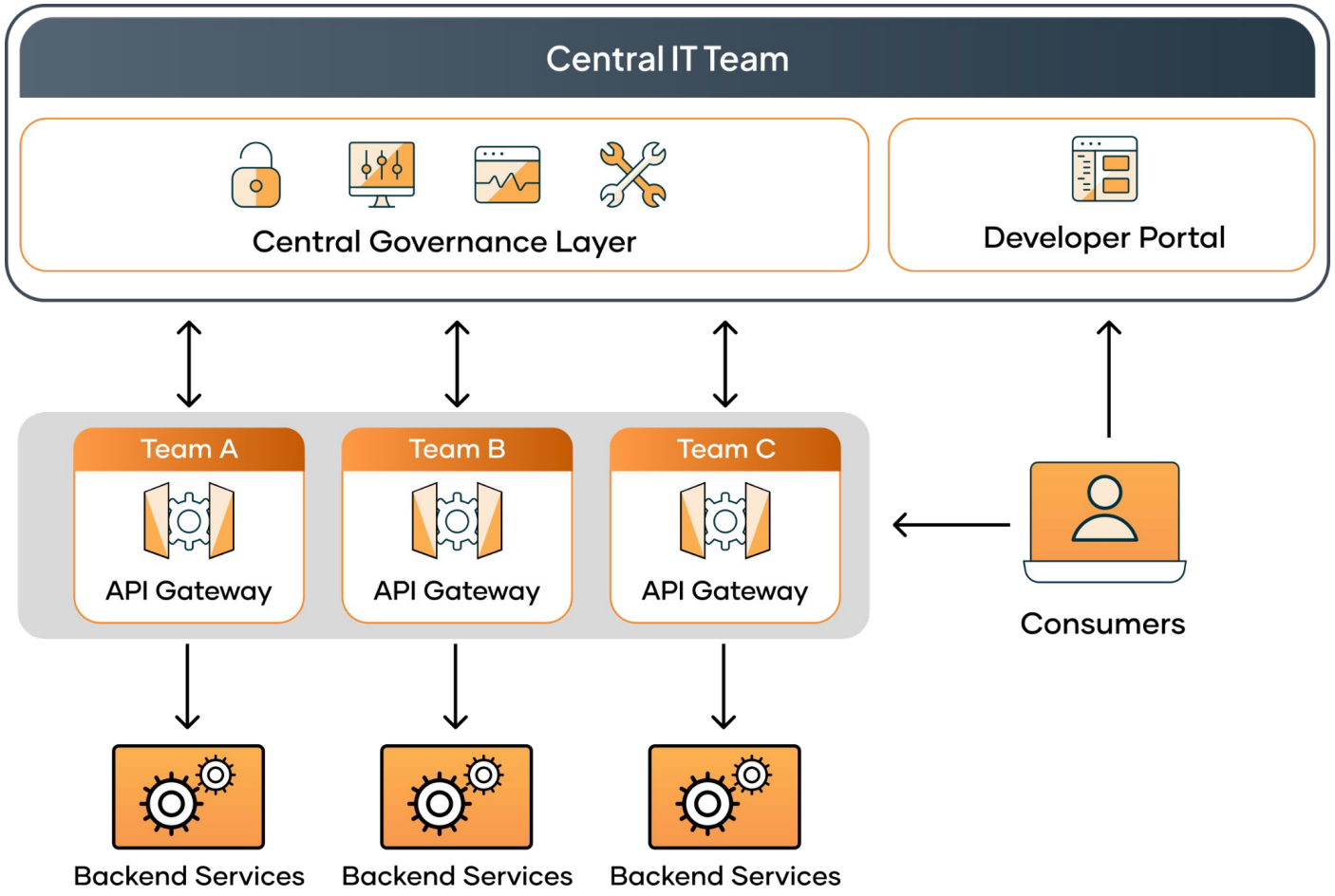

Hybrid Approach

Federated API Management

Federated API Management

- Decentralized ownership and execution by individual teams
- Centralized visibility and governance from a central layer
- Autonomy with Guardrails


Decentralized Ownership
Interoperability
Centralized Governance
Observability
Unified Developer Experience
Self Service


Central IT Team
Central Governance Layer
Developer Portal
Team A
API Gateway
Team B
API Gateway
Team C
API Gateway
Consumers
Backend Services
Backend Services
Backend Services

Common Federated Gateway Models

- Regional/Geo-Federated
- BU/Domain Specific
- Ingress/Egress
- Hybrid Cloud/Multi-Cloud
- Specialized:
  - AI
  - Edge
  - Event-Driven
- Supporting multiple API vendors

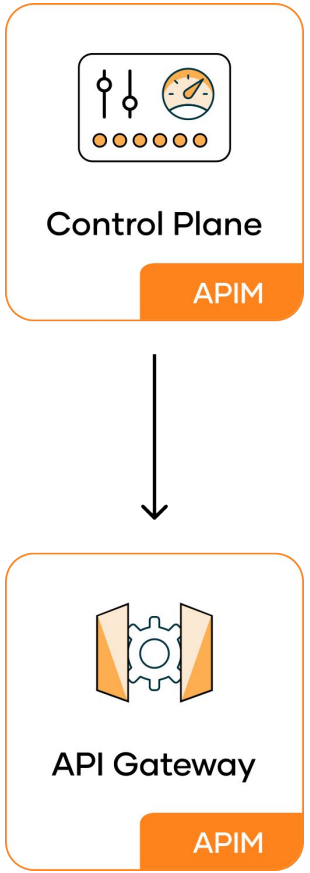
What Drives Federated Gateway Adoption?

- Large Enterprises with multiple, geographically dispersed BUs
- Modernization & Legacy Coexistence
- Mergers & Acquisitions
- Cloud Agnostic
- Localized Compliance and Governance

Adoption Approaches

Top-Down Federation

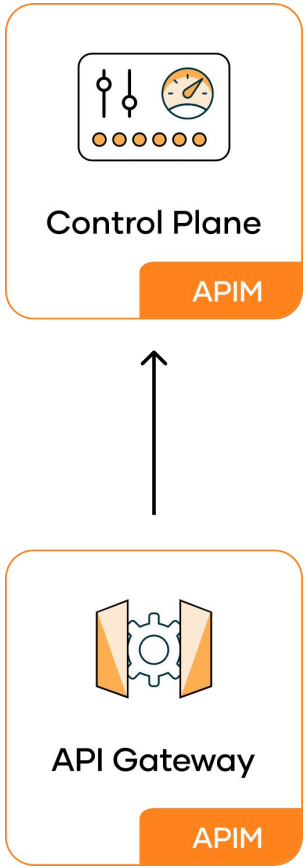
- APIs designed & managed centrally in CP
- CP deploys/syncs APIs & policies to gateways
- Unified governance and standards from day one



Adoption Approaches

Bottom-Up Federation

- APIs managed at individual gateways
- CP discovers and pulls APIs to central catalog
- Governance & policies applied post-discovery
- Fits organizations with many decentralized gateways
  - Federate without forcing immediate redesign
  - Discovery-driven onboarding.



Challenges & How to Address Them

- Operational complexities
  - Automation (IaC), robust tooling, standardized configurations
- Consistency and security
  - Strong governance framework, centralized policy hub, regular audits
- Tooling Interoperability
  - Open standards (OpenAPI, K8s Gateway Spec)
- Data Silos in Analytics
  - Centralized observability platform for unified logging, metrics, tracing
- Organizational Alignment
  - Collaboration, well-defined roles and responsibilities, training

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Not a ‘Nice to Have’ but an Essential

Question Time!


Thank you!
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