ORACLE
AI World

Best Practices for Oracle Integration AI Enabled Projects

Agents bring the intelligence.
Oracle Integration brings the enterprise.

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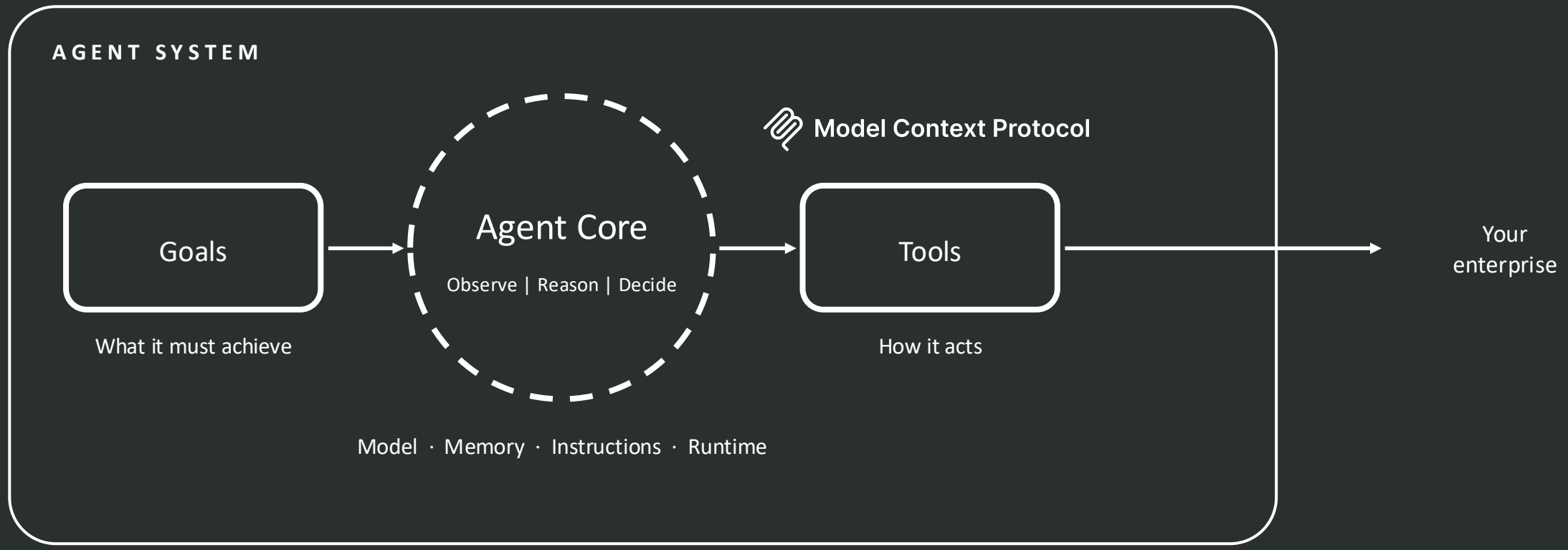
The challenge is no longer building agents.

It is trusting them with your enterprise.

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What we mean by agent

Any software that can decide what to do next and act on your enterprise



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Built to connect and automate the enterprise

The foundation enterprises already run on, reimagined for agents

FOUNDATION

Connect

130+ adapters to every application, data source, and trading partner the business runs on

Fusion · NetSuite · SAP · Salesforce · ServiceNow · Workday · databases · events · B2B

Automate

Work that runs the same way every time, across all of those systems

Integration flows · RPA · Rule-based decisions · Human-in-the-loop · Knowledge bases

REIMAGINED FOR AGENTS

Orchestration & tools

Agents reuse your work

Agents call integrations, and integrations call agents

Governed access

One set of rules

Enforced at the gateway, not inside the agent

Complete applications

Ready to deploy

From the marketplace or publish your own

Agents bring the intelligence. Oracle Integration brings the enterprise.

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Why Projects?

All new features only in projects



Not just integrations – a comprehensive toolkit –

Integrations, Agents, Tools, MCP Gateway, HITL, Events, B2B, RPA, Decisions



Build together, deploy together & share artifacts between projects



Role Based Access Control (RBAC) – Design & Runtime

Multiple teams in one instance, each with their own virtual OIC



Project Level Monitoring & Observability

Including design time dependency analysis



Powerful AI Assistant support

Generate integrations from natural language

Auto-Generated Documentation

Business friendly error messages at runtime

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Project Best Practices

Coarse or fine-grained Projects – e.g. all ERP integrations in 1 project or separate projects per functional area?

Organize around business solutions: Group components that serve the same process or business domain.

Reuse components deliberately: Share common connections and expose reusable child integrations across projects.

Keep projects manageable: Start with roughly **20 integrations per project** for easy navigation – our recommendation, rather than a hard limit.

RBAC - Apply least-privilege access: Assign appropriate project roles and secure runtime endpoints separately; project permissions govern design-time access.

Standardize versioning and release descriptions: Define when to increment versions and document changes so teams select the correct assets for deployment.

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Project Best Practices



Deploy a complete release snapshot: Include all required integration versions, including unchanged ones, to support consistent promotion and easier rollback.

Control changes to shared connections: Reactivate consuming integrations after shared configuration changes so they pick up the updates.

Coordinate development and monitor centrally: Plan around integration editing locks and use the project's **Observe** page to review execution status and errors

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Project Organization

How to decide what projects to create

Functional Projects

- Line of Business Oriented
  - Finance
  - Expenses
  - Recruitment
  - HR
- Separation of Concerns
  - Limit access
  - Only share what is needed

Cross-Cutting Projects

- Generic Shared Connection Projects
- Common Utility Projects
  - Shared Logging
  - Shared Error Handling
- Generic Shared Capability Projects
  - Shared Lookups
  - Shared Libraries
- Separation of Concerns
  - Limit Access
- Mix and Match according to needs

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Layered Access for OIC Tools Projects

- Where different teams own integration development and agent tooling, separating these responsibilities provides clearer control

- Create a new group in IDCS for Tools managers
  - Add users to the group, ensure users also have the OIC ServiceDeveloper role.

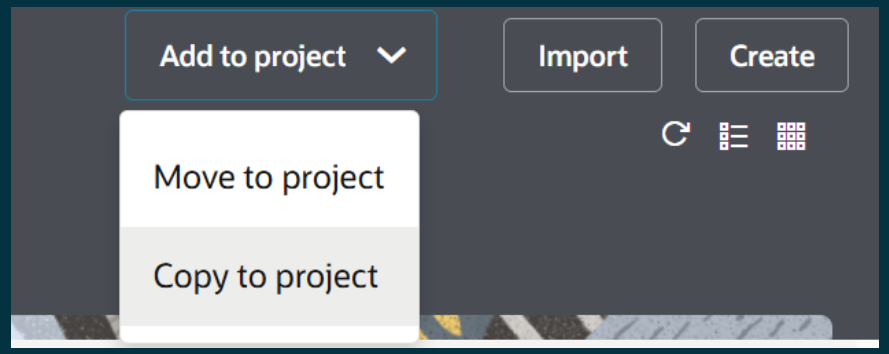
- Core integration developers create integrations in projects
  - Integrations, that are good candidates for tools, are made shareable
  - RBAC is applied to the project, giving Tools admins VIEW access

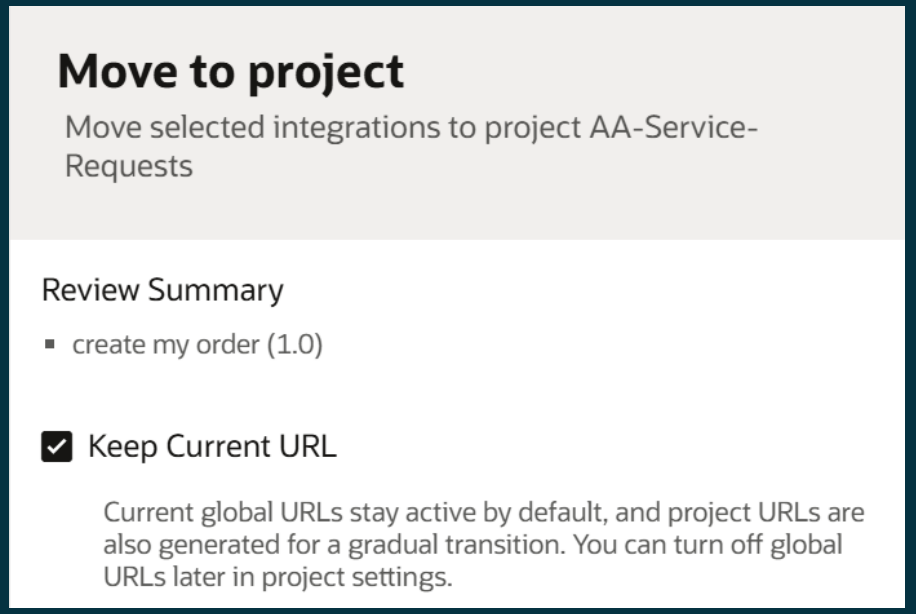
- Tools managers create tools project in OIC
  - Tools can now be created, based on Integrations selected from shared projects
  - Tools are exposed via the Project MCP server

- Tools managers govern exposed tools using OIC MCP Gateway

Moving to Projects - Options

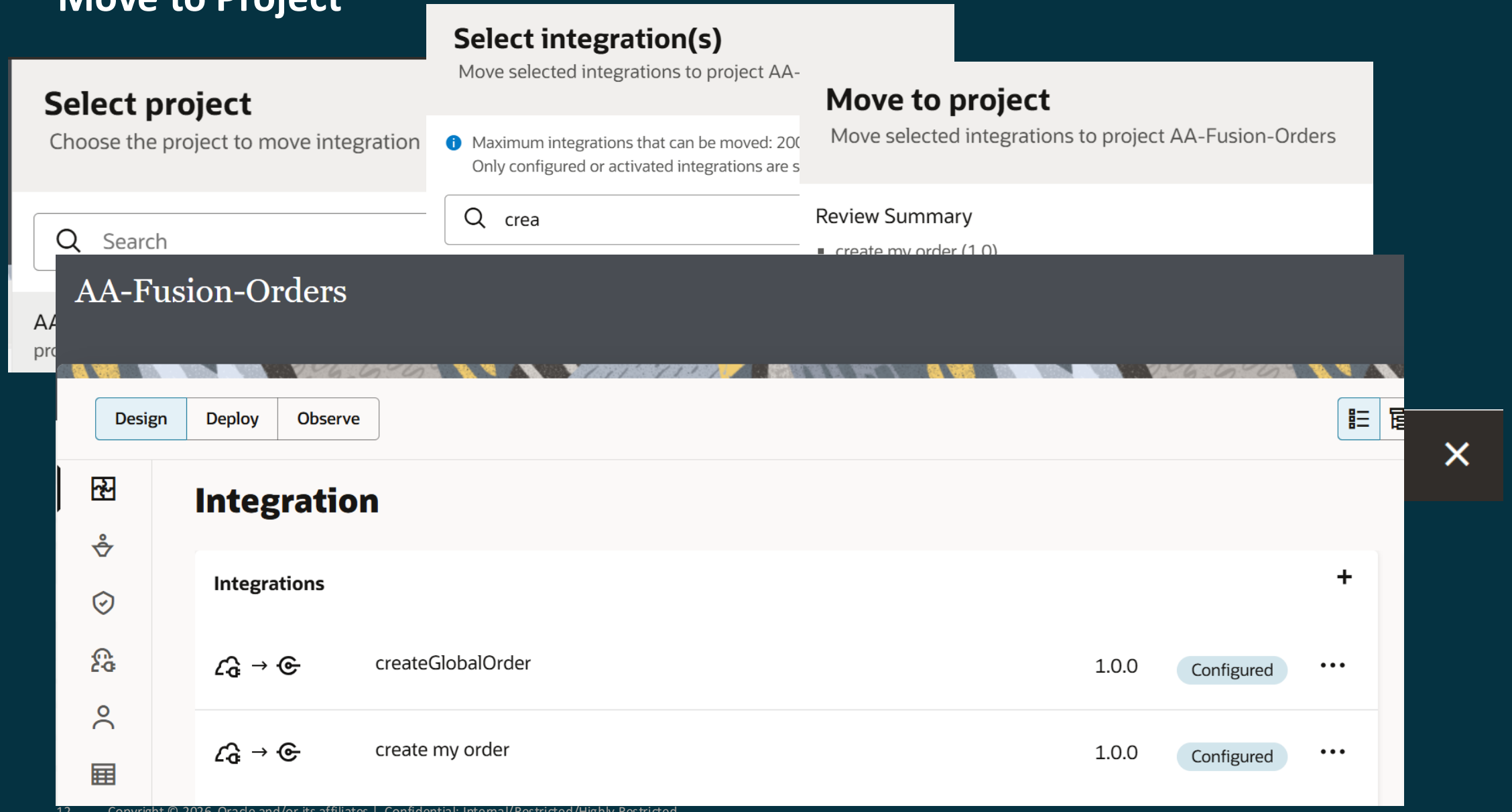
- Move & Copy options





- Copy – creates an independent copy of the integration in a selected project
- Move – copy with dependency. Ability to “keep” original endpoint
  - “move” includes relevant minor versions
  - Only project version or original integration in global space can be active at any one time
  - Allows for Bug fixes in production, during transition to projects
  - Local Invokes will need reconfiguring, if both integrations “moved” to projects
  - Global space integrations can be deleted, once the full transition has happened

Move to Project



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Marriott's Oracle Integration Cloud Journey: Enabling Enterprise-Wide Integration Excellence

Building a scalable, reusable, and standardized integration foundation for the enterprise.

Presenters:
Premkumar Manoharan
Ankur Sanghi

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Over 30 Hotel Brands & 10000 Global destinations

Operates with 800k + associates across 148 countries



HR Platform

* 450 Plus Integration using these infrastructure



U.S. & Canada



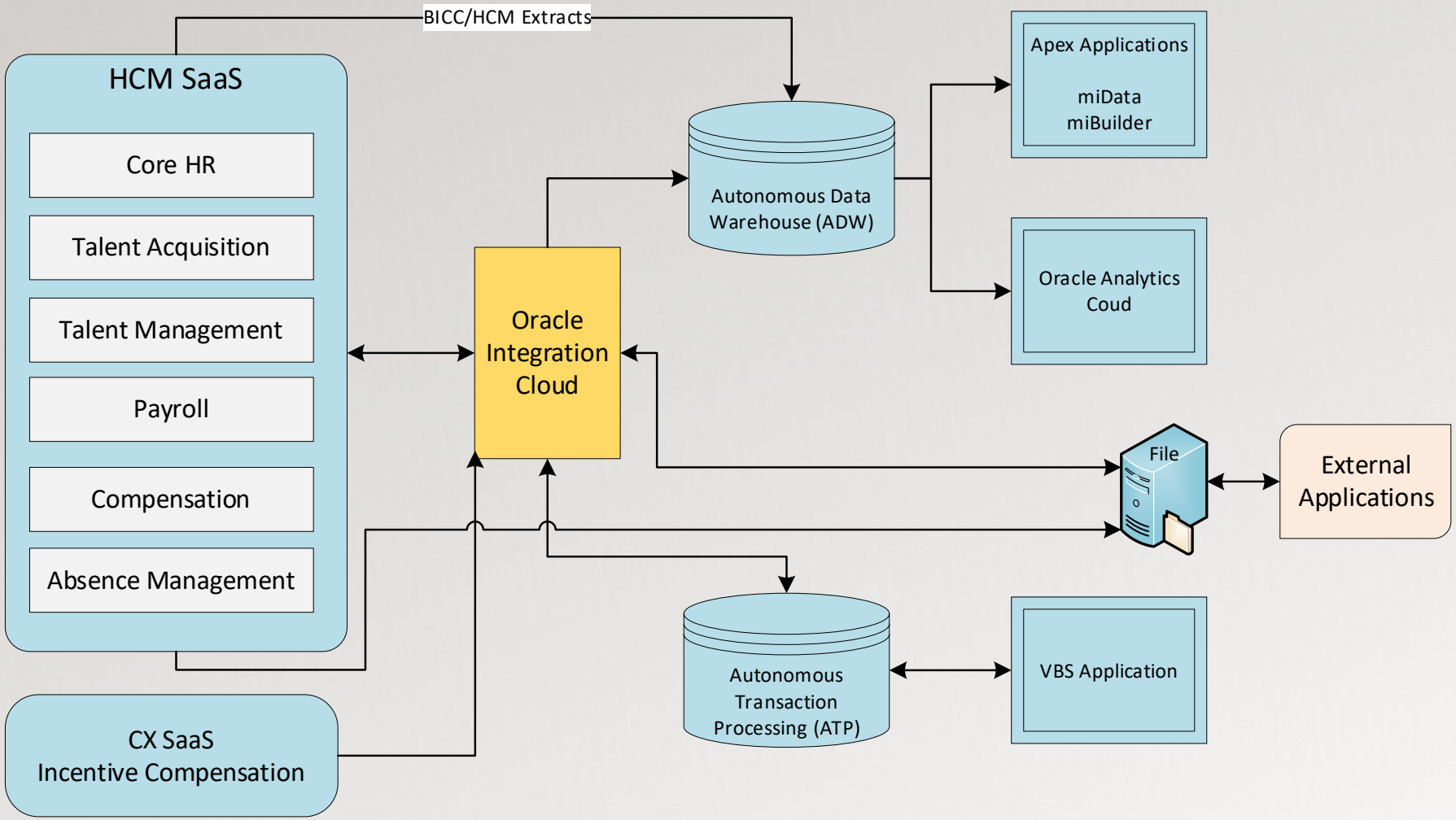
Caribbean & Latin America



Asia Pacific Excluding China + Greater China

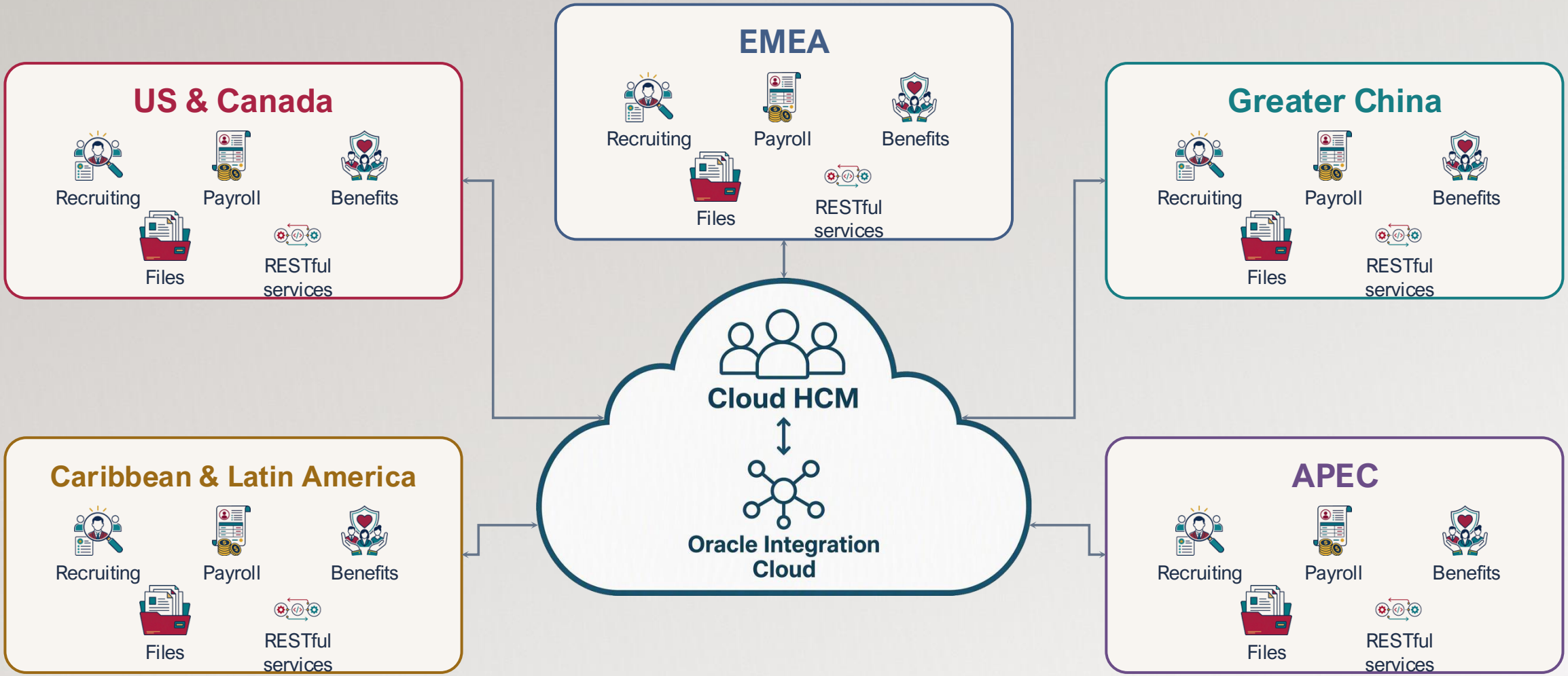


Europe, Middle East & Africa



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Applications Connected to Cloud HCM



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Business Impact of a Fragmented Integration Landscape

Repetitive builds create a compounding cycle of capacity, cost, and operational inefficiency.

01

Repetitive Development Efforts

Teams rebuild similar capabilities

02

Lack of Reusable Integration Assets

Limited standard components and patterns

03

Reduced IT Capacity

Less focus on strategic priorities

04

Increased Maintenance Overhead

More solutions to monitor and support

05

Inefficient Use of System Resources

Duplicate processing and infrastructure load

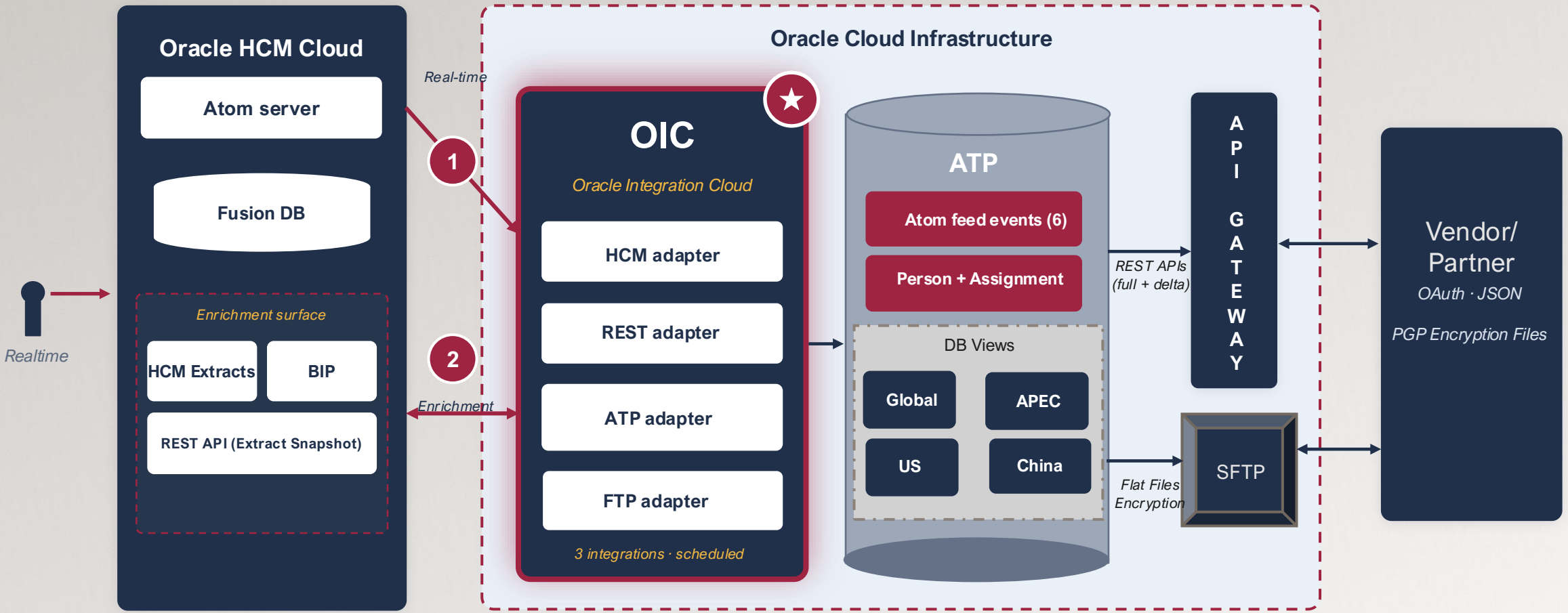
COMPOUNDING BUSINESS IMPACT

Higher cost • Slower delivery • Reduced agility • Greater operational risk

The lack of reuse reinforces repetitive development, creating a self-perpetuating cycle.

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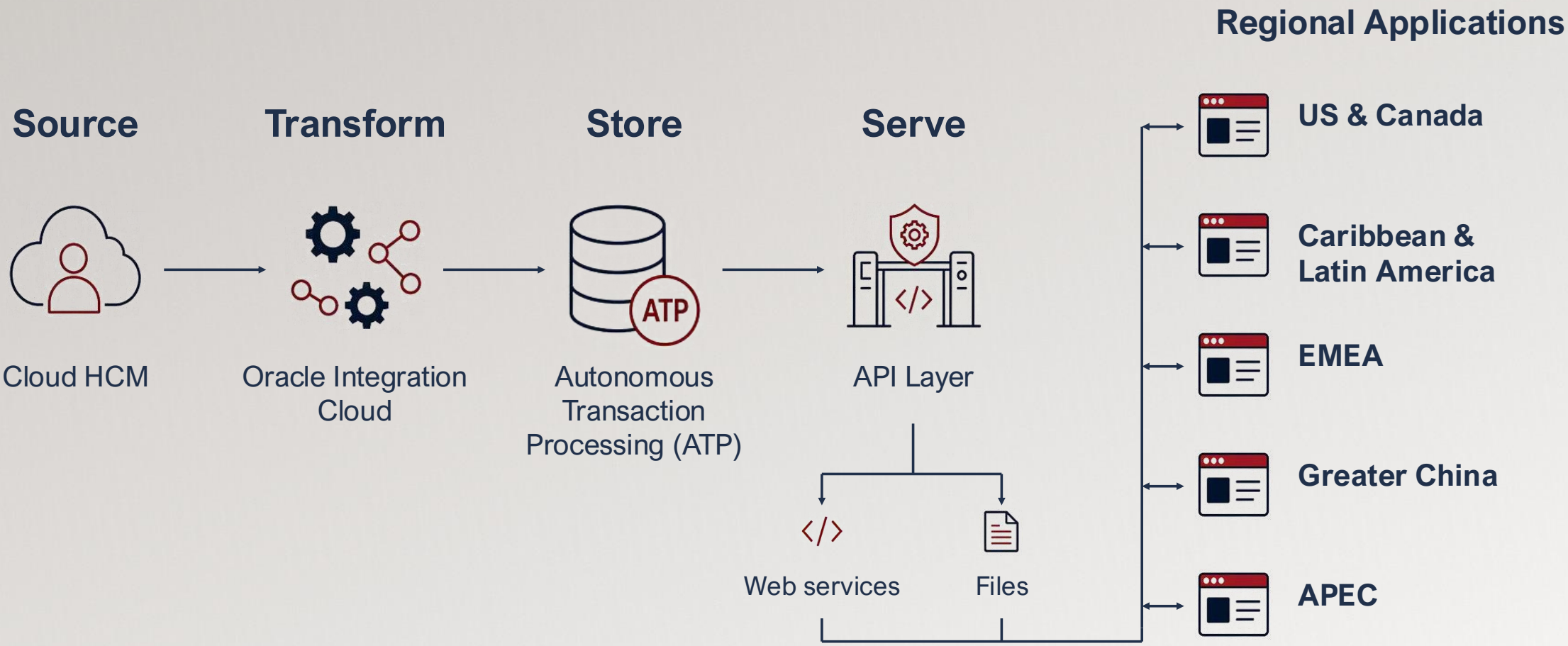
Build Once. Govern Centrally. Consume Everywhere



Int 1 OIC process captures real-time HCM atom-feed events into ATP staging. **Int 2** OIC process enriches consolidated events via HCM REST Extract Snapshot, then publishes Person + Assignment APIs through API Gateway.

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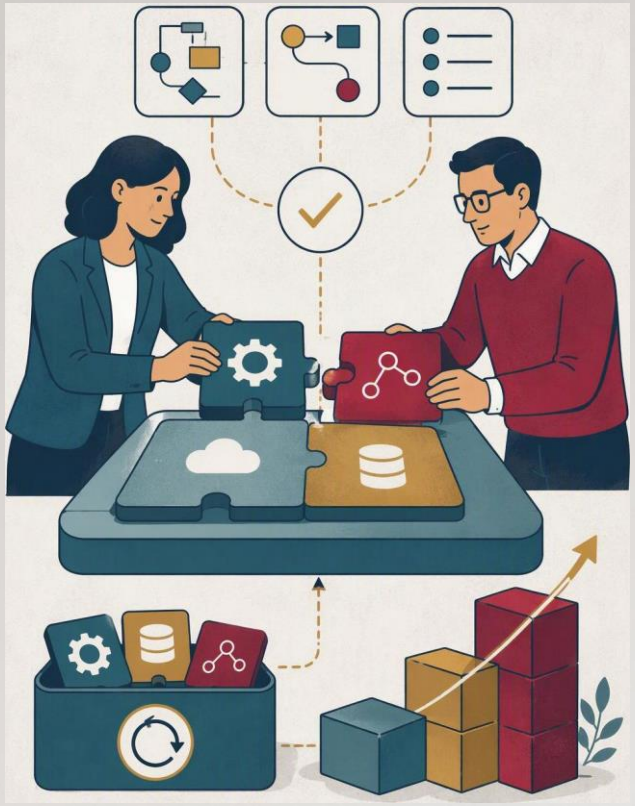
Shared HCM Data for Regional Applications



Transform centrally. Share through a common API layer.

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Outcome from Framework



Operational Efficiency

Standardized processes and reusable components reduce manual effort, streamline support, and accelerate delivery.

~Eliminated 13,500 hours across 900 properties in Greater China & APEC region

Reduced Cost & Complexity

Eliminates duplicate development and maintenance activities, lowering operational costs and reducing technical debt.

~ Expanded Support without additional headcount.

Improved Accuracy

Centralized business logic ensures uniform processing across integrations, improving data quality and reducing stabilization efforts.

~ Significant reduction of bugs

Scalability

Provides a reusable foundation that enables faster onboarding of new integrations and supports future business growth.

~ 40% reduction in development efforts

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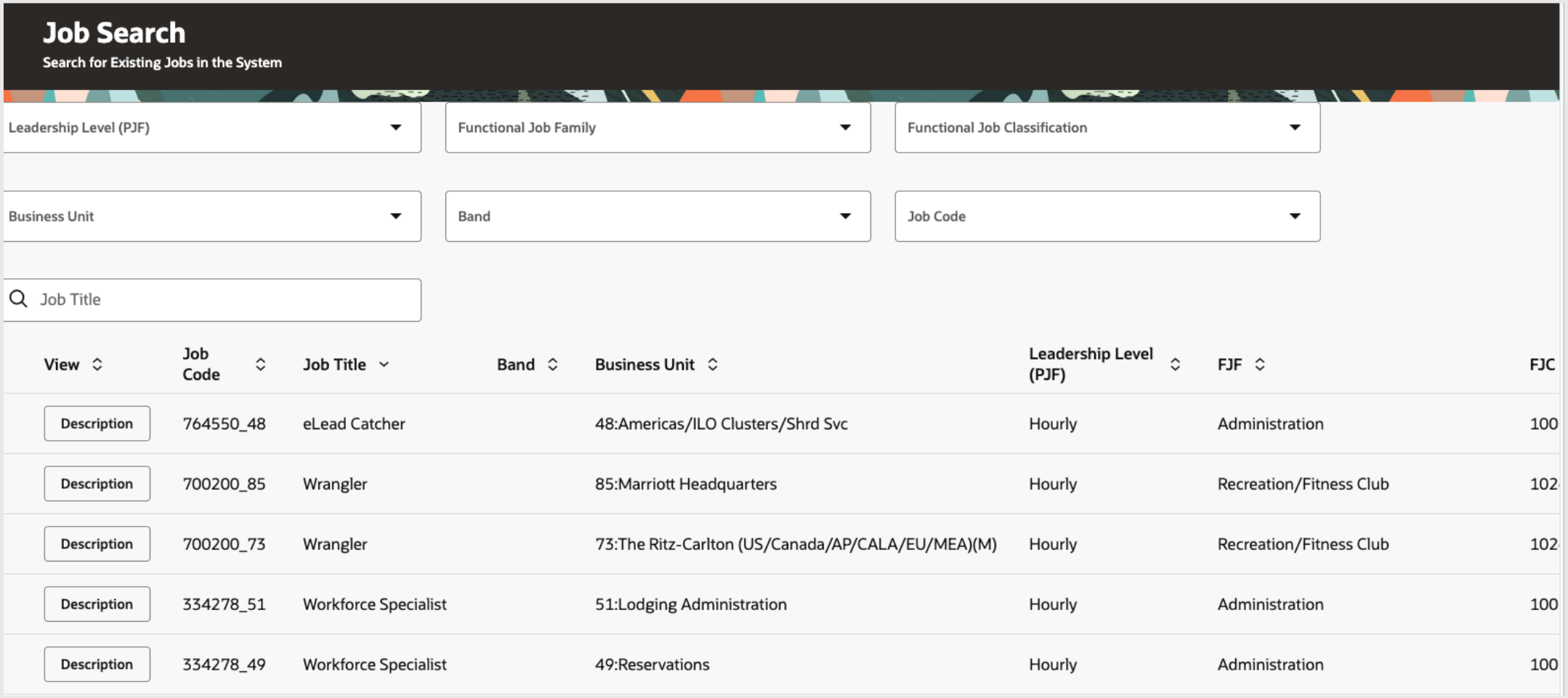
A Modern Approach to Search and Display!!!

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Context & Problem

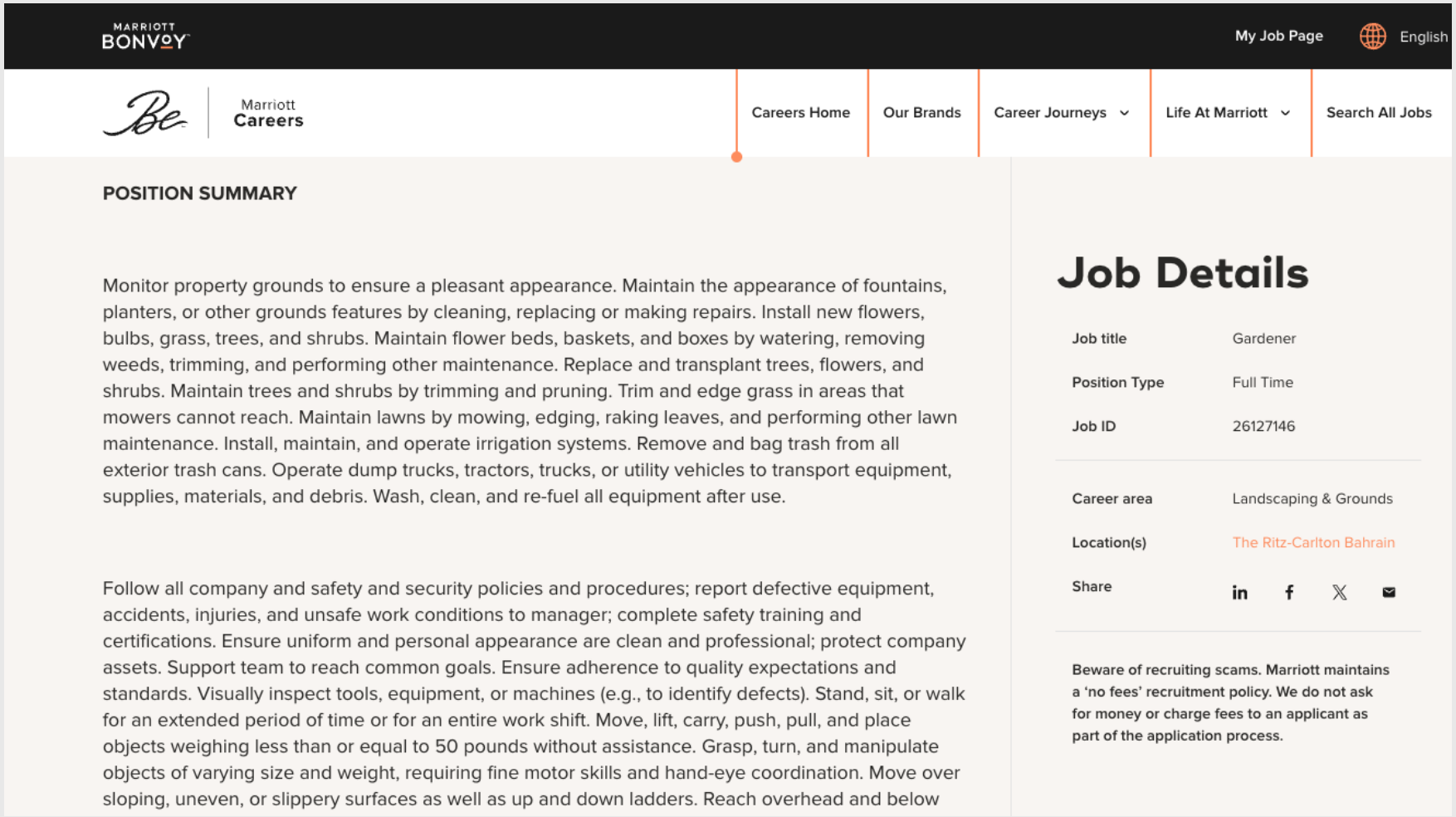
- Marriott HCM system has several thousand jobs each with a variety of attributed and description.
- Hiring managers search for job definitions in existing system to find a match (to open a new requisition)
- The current search function is based on attribute values and SQL 'where' clause with the ‘=‘, ‘LIKE’ operators
- Search results are not ranked
- Search across 50,000 documents (job-description) of text was not practical

The Current System



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A typical Job Description



MARRIOTT BONVOY

My Job Page | English

Be | Marriott Careers

Careers Home | Our Brands | Career Journeys | Life At Marriott | Search All Jobs

POSITION SUMMARY

Monitor property grounds to ensure a pleasant appearance. Maintain the appearance of fountains, planters, or other grounds features by cleaning, replacing or making repairs. Install new flowers, bulbs, grass, trees, and shrubs. Maintain flower beds, baskets, and boxes by watering, removing weeds, trimming, and performing other maintenance. Replace and transplant trees, flowers, and shrubs. Maintain trees and shrubs by trimming and pruning. Trim and edge grass in areas that mowers cannot reach. Maintain lawns by mowing, edging, raking leaves, and performing other lawn maintenance. Install, maintain, and operate irrigation systems. Remove and bag trash from all exterior trash cans. Operate dump trucks, tractors, trucks, or utility vehicles to transport equipment, supplies, materials, and debris. Wash, clean, and re-fuel all equipment after use.

Follow all company and safety and security policies and procedures; report defective equipment, accidents, injuries, and unsafe work conditions to manager; complete safety training and certifications. Ensure uniform and personal appearance are clean and professional; protect company assets. Support team to reach common goals. Ensure adherence to quality expectations and standards. Visually inspect tools, equipment, or machines (e.g., to identify defects). Stand, sit, or walk for an extended period of time or for an entire work shift. Move, lift, carry, push, pull, and place objects weighing less than or equal to 50 pounds without assistance. Grasp, turn, and manipulate objects of varying size and weight, requiring fine motor skills and hand-eye coordination. Move over sloping, uneven, or slippery surfaces as well as up and down ladders. Reach overhead and below

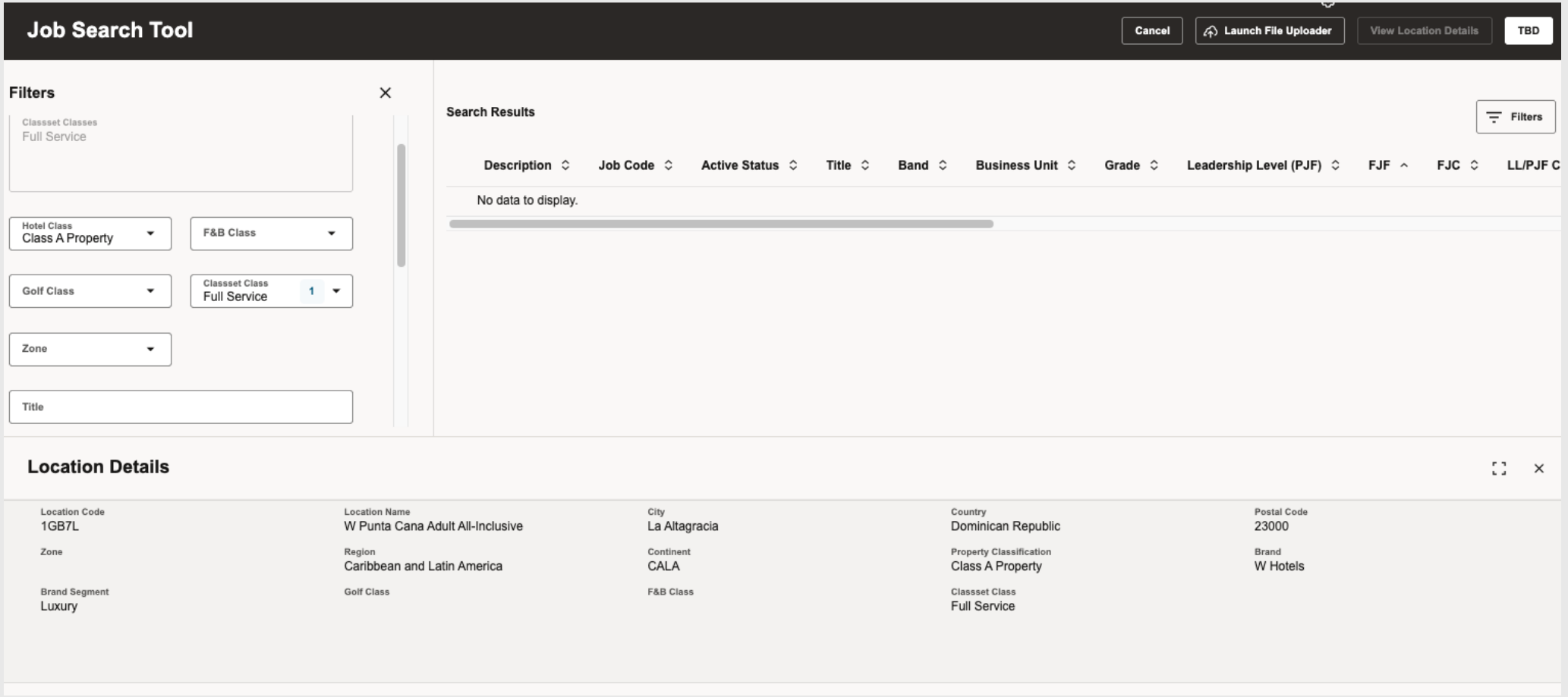
Job Details

Job title	Gardener
Position Type	Full Time
Job ID	26127146
Career area	Landscaping & Grounds
Location(s)	The Ritz-Carlton Bahrain
Share	

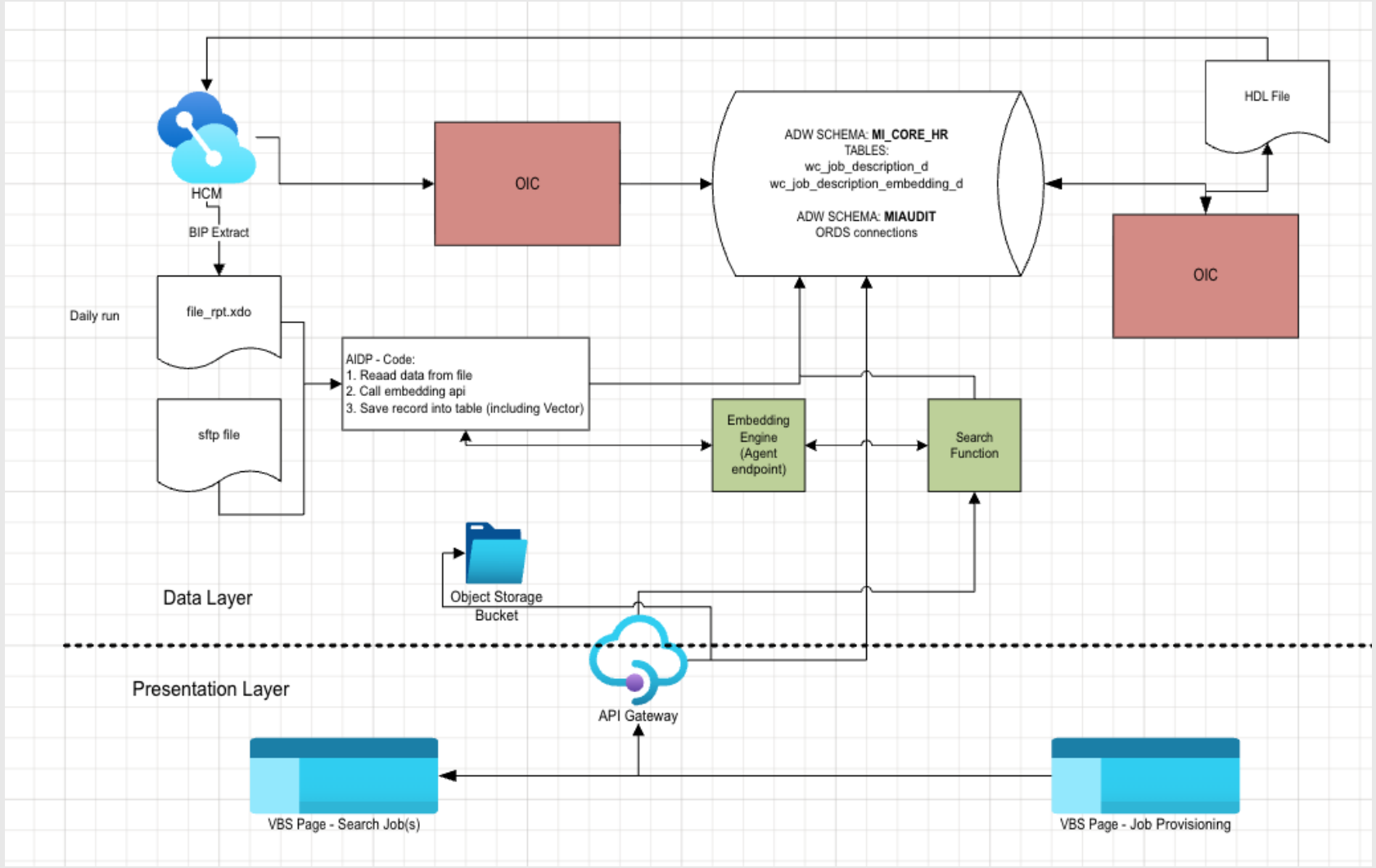
Beware of recruiting scams. Marriott maintains a 'no fees' recruitment policy. We do not ask for money or charge fees to an applicant as part of the application process.

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AI Search enabled



How does this work



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Impact & Required Changes

- Upgraded database to 26ai.
  - Support for Vector datatype
  - Integrated embeddings at the database level
- Implemented AIDP using vector search capabilities
  - Support for calling embedding api's (Or option to use Std Catalog to use built in capability)
- Custom Code for embedding and search function

Thank You

We shape our tools and thereafter our tools shape us
- Marshal McLuhan

Move to Production

Consistent Release Baseline - New release = new deployment

Include complete set of integration versions, including unchanged integrations - Hotfixes may be an exception

Separate Release from Environment Configuration

After import, configure and test target connections. Separate Config per Environment – Use Shared Config Project

Embed version in deployment name - Consistent name such as OrderProcessing_1.4.0.

Deployment release version identifies the solution - individual integrations retain their own versions

Deployments exported only from Development – Export to repository

Promote **same deployment** through Test/UAT and Production - Emergency production fixes need backporting

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Move to Production

Check dependencies beyond the archive - Remote shared connections and local connection override associations are not exported in the .car file.

Don’t change once exported - treat the exported deployment and its .car file as immutable. Any code or release-content change creates a new release. Apply environment configuration separately through supported OIC settings/APIs.

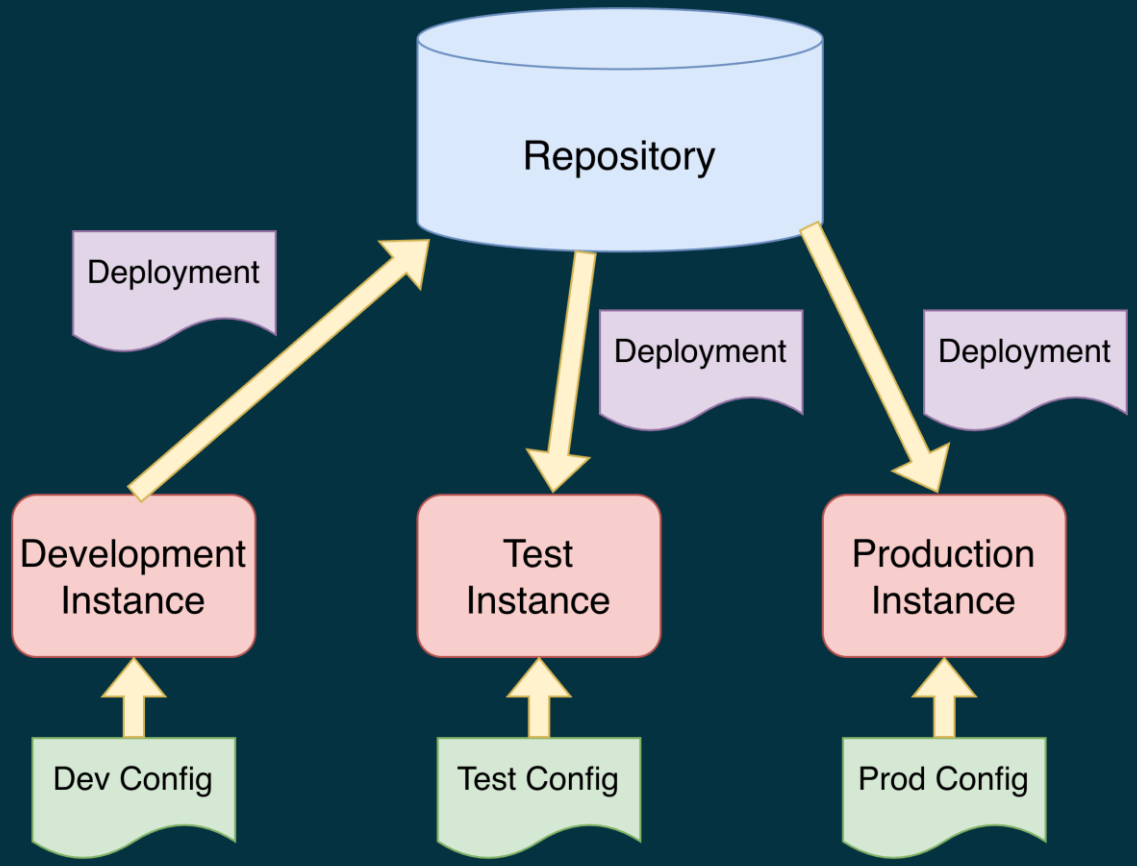
Use an artifact repository - Store versioned .car files in Artifactory or an equivalent repository. Prevent overwriting released artifacts and retain checksums, release manifests, test results, and previous releases for rollback

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Version Contents and Release Process

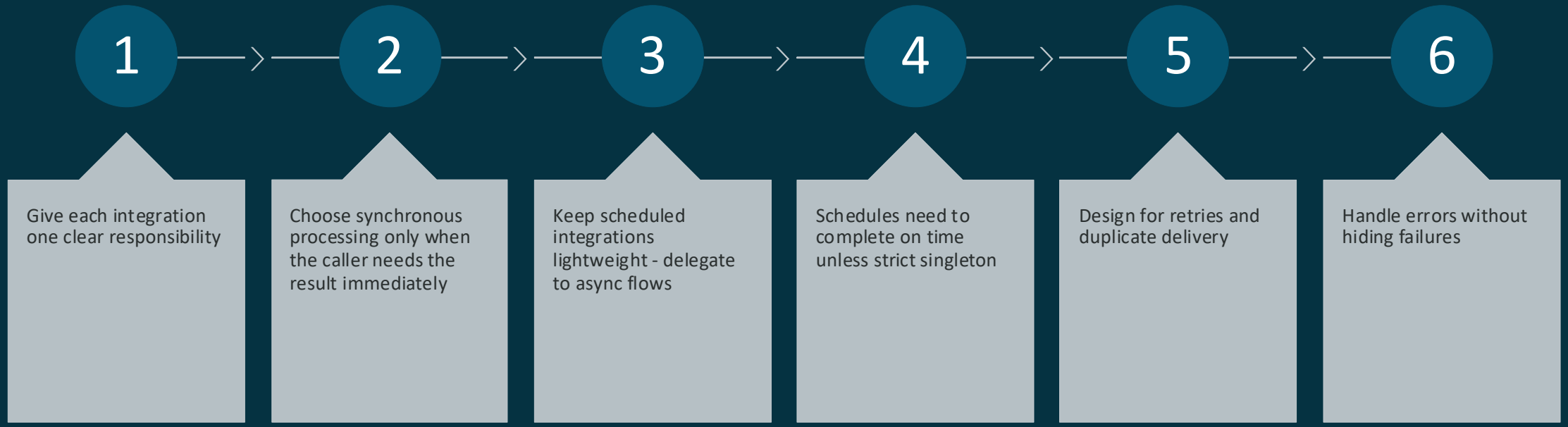
Deployments Reflect Reality





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Design-time Best Practices



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Runtime Best Practices

1. Run with Production tracing by default
2. Log the information needed to resolve an incident
3. Choose tracking fields that support real searches
4. Alert on delay and missing activity as well as errors
5. Protect downstream systems during peaks and recovery
6. Test failure and recovery under realistic load
7. Make every project release operationally ready

Runtime RBAC support planned for CY27

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Connections Best Practices

Use	Use shared connections
Share	Share within a security boundary
Use	Use identity propagation when the target must act as the caller
Use	Use runtime endpoint overrides for genuine dynamic routing
Use	Use the minimum required privileges
Give	Give connections meaningful names and clear ownership
Test	Test the business operation as well as the connection

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File Server Best Practices

Organize folders by business flow and processing state

Apply least-privilege folder permissions

Use distinct identities and SSH keys for automated clients

Choose the appropriate access mechanism – file server native action, ftp, stage file

Prevent duplicate processing

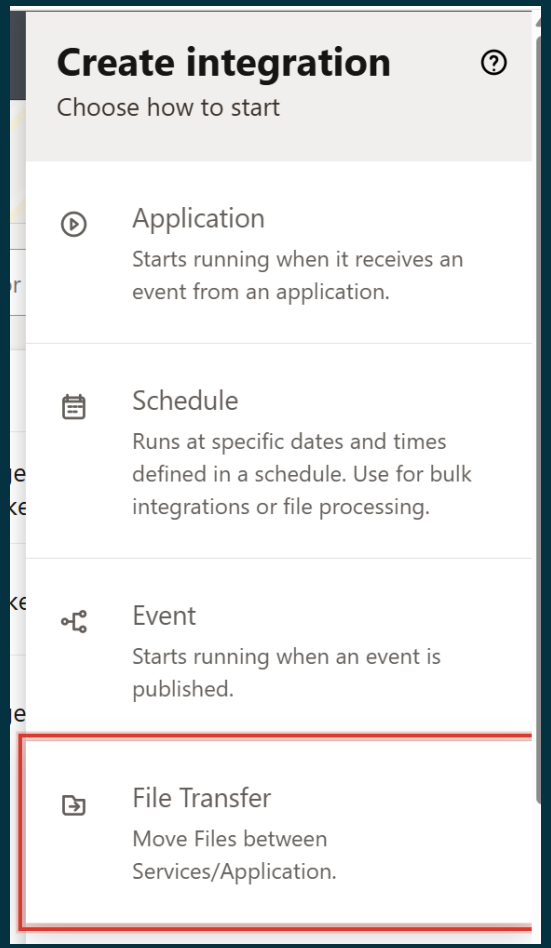
Archive only after business success

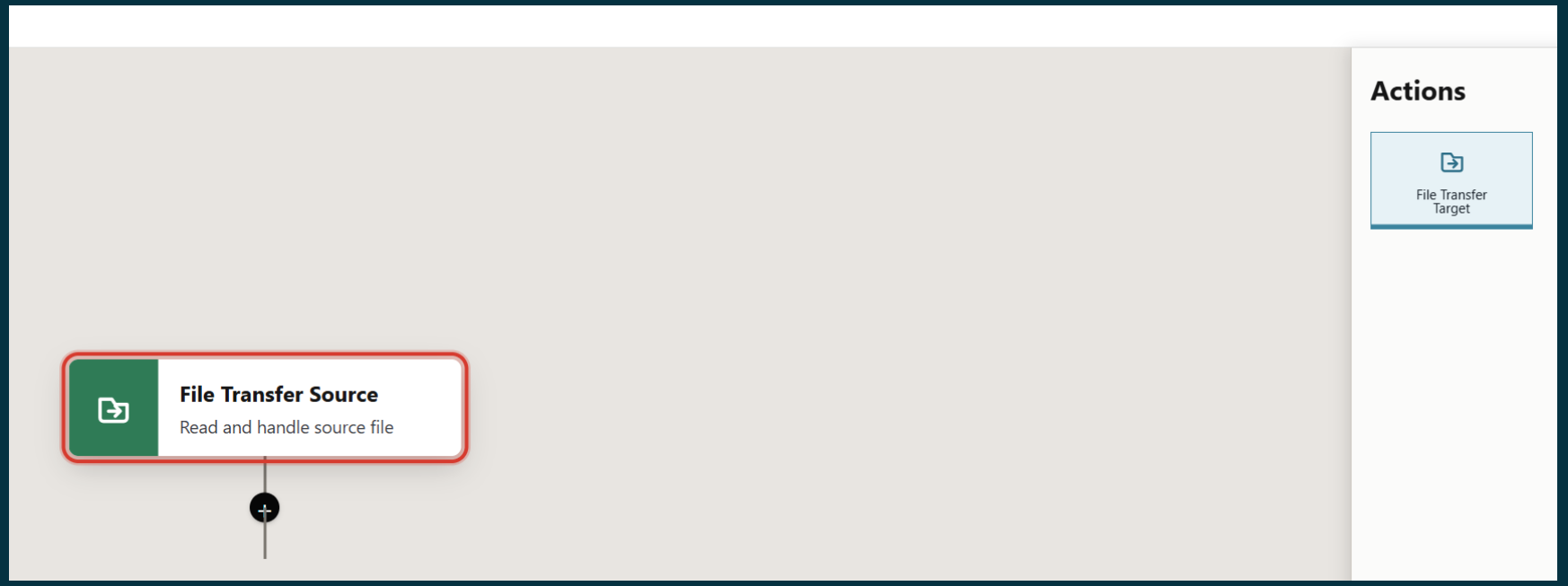
Bound polling and concurrency

Automate retention and cleanup

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OIC MFT Lite – coming soon

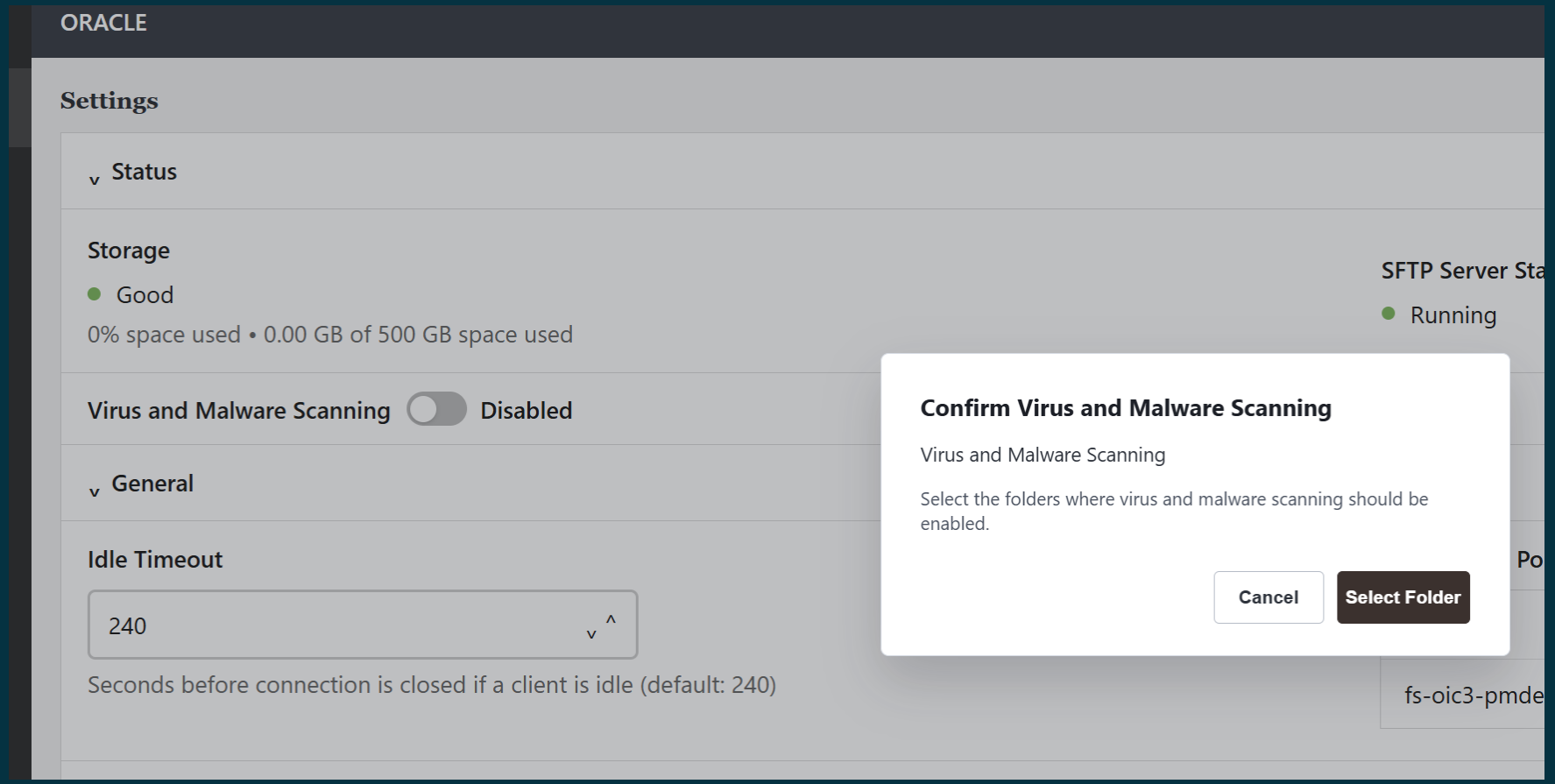


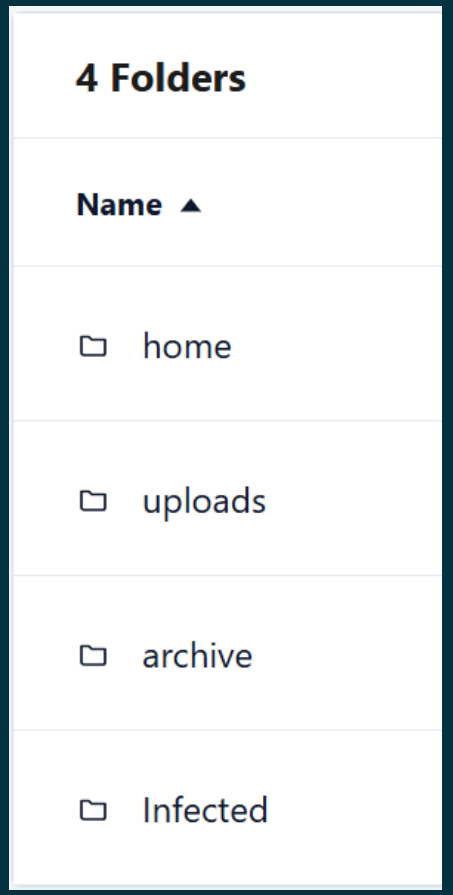


Simplified design canvas, specifically for MFT
Compelling billing – Billable message size is 1MB and not 50kb

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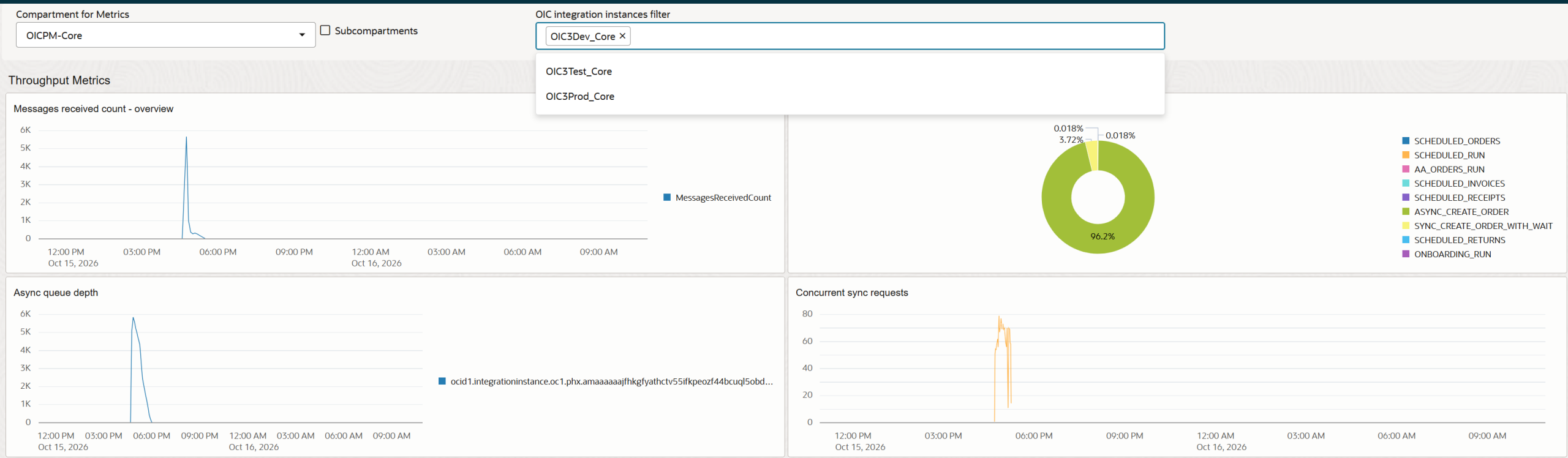
OIC File Server Virus Checker – coming soon





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Key Service Metrics - Dashboards



- Drill down from fleet view to instance view
- All widgets based on OCI Service Metrics for OIC

Key Service Metrics - Dashboards

OIC fleet level billing metrics

Configured messages for OIC fleet

Total consumed message packs for OIC fleet

Total consumed message packs for OIC fleet

Top integrations for selected OIC instance

Billing top 10

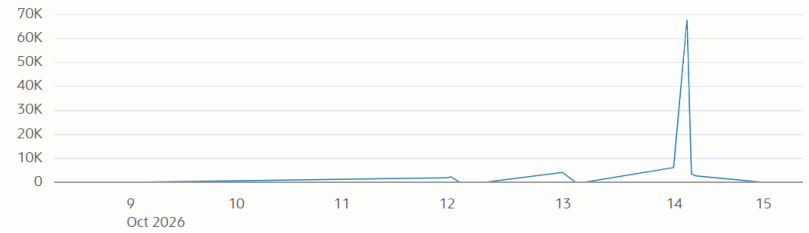


Billing top 5

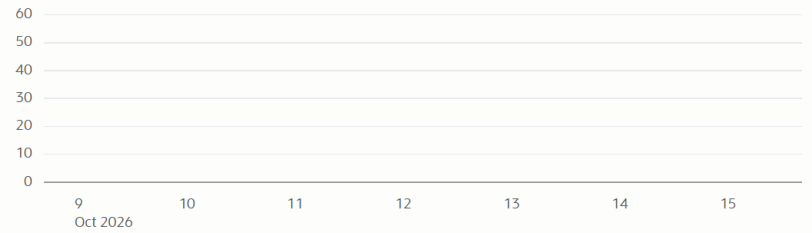


Billed messages by component for selected OIC instance

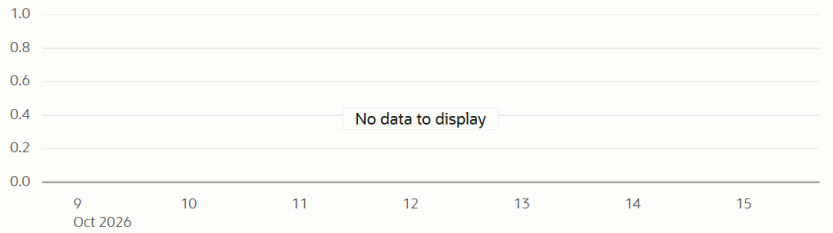
Integration messages



OPA & HITL messages



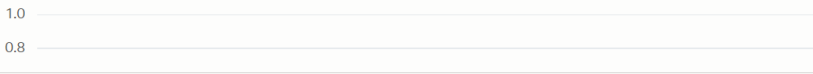
Decisions messages



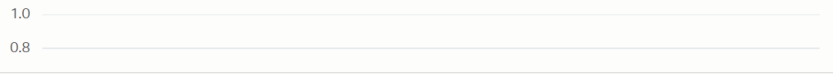
RPA messages



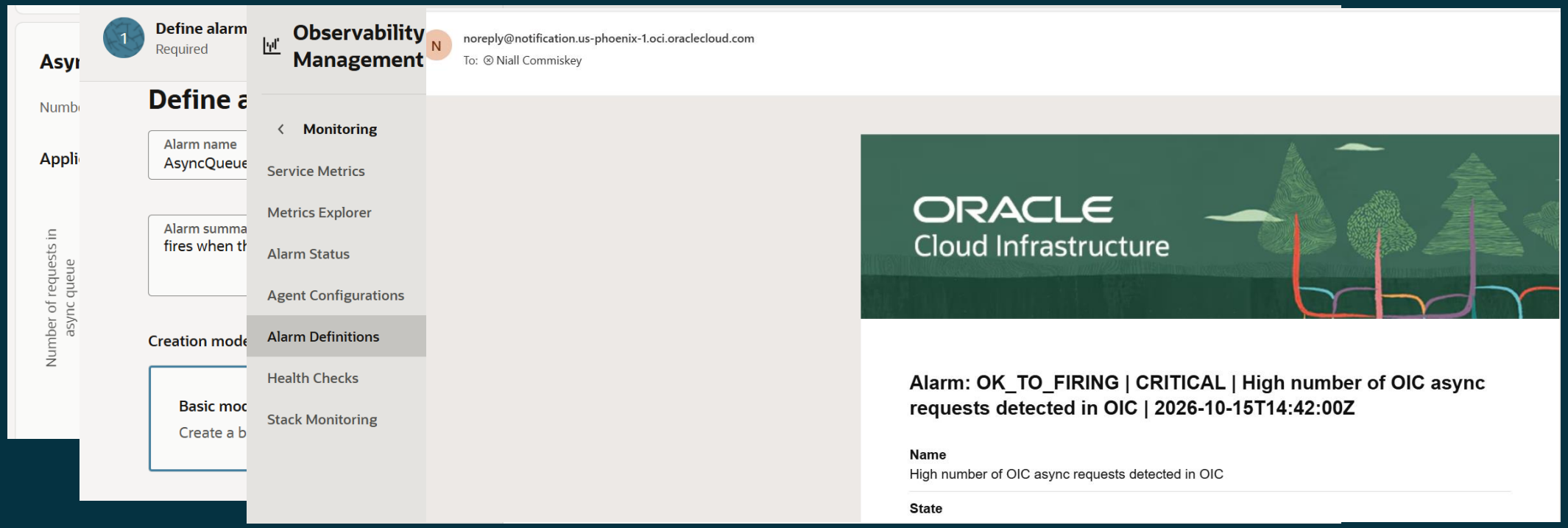
Mgd DR messages



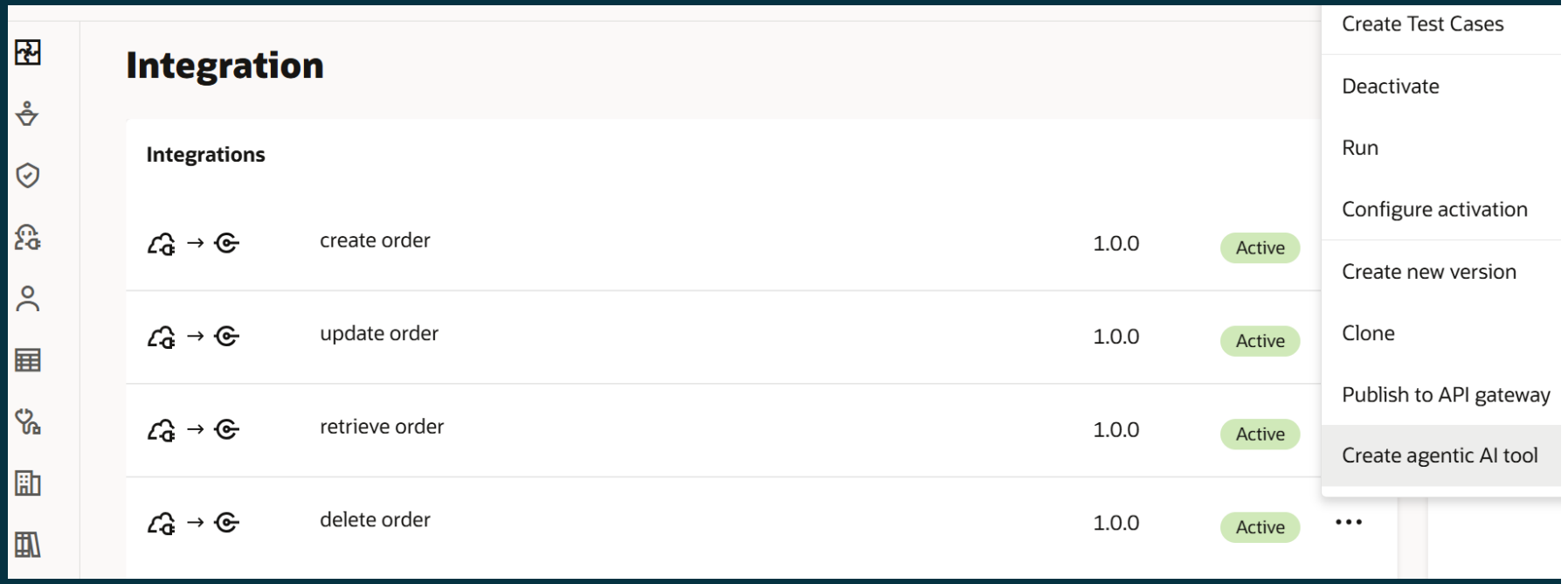
Extended data retention messages

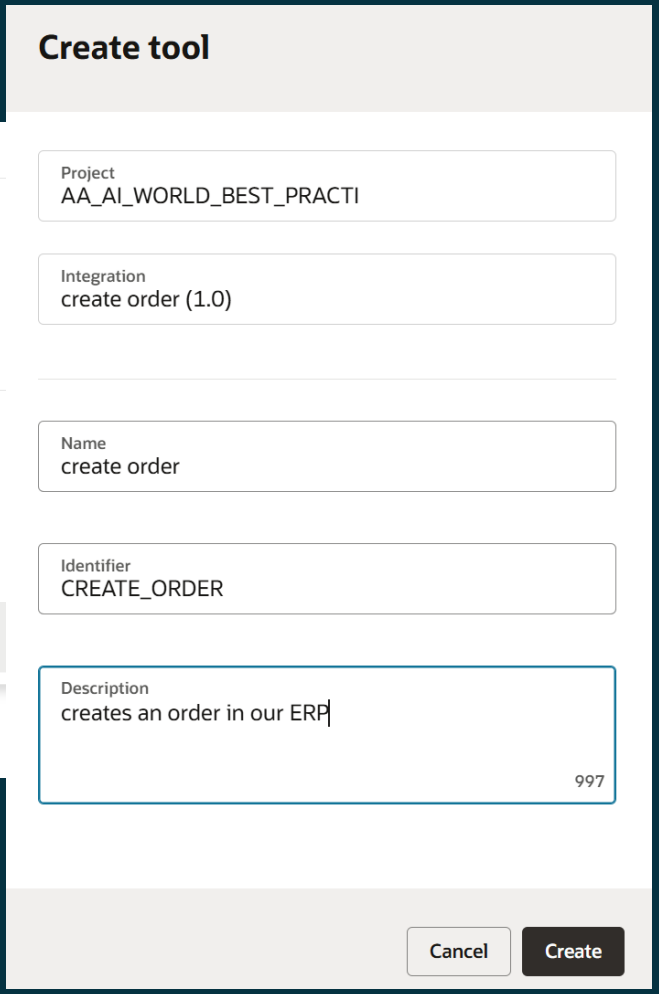


Create Alarms based on key Service Metrics -



MCP Server & Tools





- Decide which integrations to expose as tools
  - Maybe you don’t want agents deleting orders
- OAuth 2.0 and a confidential client with the ServiceInvoker role is required.

MCP Server & Tools

Guidelines

this tool creates an order in our ERP, Netsuite. It should only be used for Irish customers.

- The Guidelines are sent as system prompts to provide guardrails for an agent

Parameters configuration

Details around what parameter are asked of the agent, and which parameters need to be set to a predefined value.

	Visible	Param type	Data type	Required	Constant	Default	Enum values	Description
orderNr	☑	body	string	☑	☐			
customer	☑	body	string	☑	☐			
customerCountry	☑	body	string	☑	☐	Ireland		
product	☑	body	string	☑	☐			
price	☑	body	number	☑	☐			
orderStatus	☑	body	string	☑	☑	NEW		

MCP Server & Tools

- Expose only essential inputs. OIC supports visibility settings, constants, defaults, enums, and parameter descriptions. Specify formats, units, allowed values, and identifier types. Use constants for configuration the agent should never choose
- Use OIC tool guidelines to help the agent select and invoke tools, but enforce authorization, amount limits, and business rules in integration logic or the target system.
- Separate lookup, validation, and execution where useful. Require human approval approval (HITL) for consequential actions
- Test tool selection as well as integration behavior: ambiguous requests, missing inputs, unauthorized access, duplicate calls, timeouts, and malicious document text. Correlate agent runs, tool calls, OIC instances, and target transaction IDs.
- Use OIC MCP Gateway

MCP Gateway

MCP Servers

- Any project can host multiple servers
- Servers can be based on Integration or external servers

MCP Gateway

- Mediated access to MCP servers
- Access to gateway is distinct from access to integrations
- Clients have access to tools only through gateway

MCP Gateway Policies

- Determine tools available
- Limit access to desired clients
- Applies other business policies – e.g. PII suppression

The direct-access trap repeats wherever agents connect

Direct access feels fast. It moves governance into the agent, where it cannot be controlled.

Example: a service agent can issue refunds up to $500 without approval

DIRECT ACCESS

Credentials
The agent holds an ERP key with full refund rights

Policy
One line in the prompt: “Get approval for refunds over $500”

When it tries anyway
A $2,000 refund is sent. Nothing outside the agent stops it

Evidence
Whatever this agent's framework happened to log

Control lives inside the agent

THROUGH ORACLE INTEGRATION

Credentials
Brokered by MCP Gateway; the agent never holds them

Policy
Refunds over $500 require approval evidence at the gateway

When it tries anyway
The $2,000 refund is denied and recorded until approved

Evidence
One activity record across every agent and tool

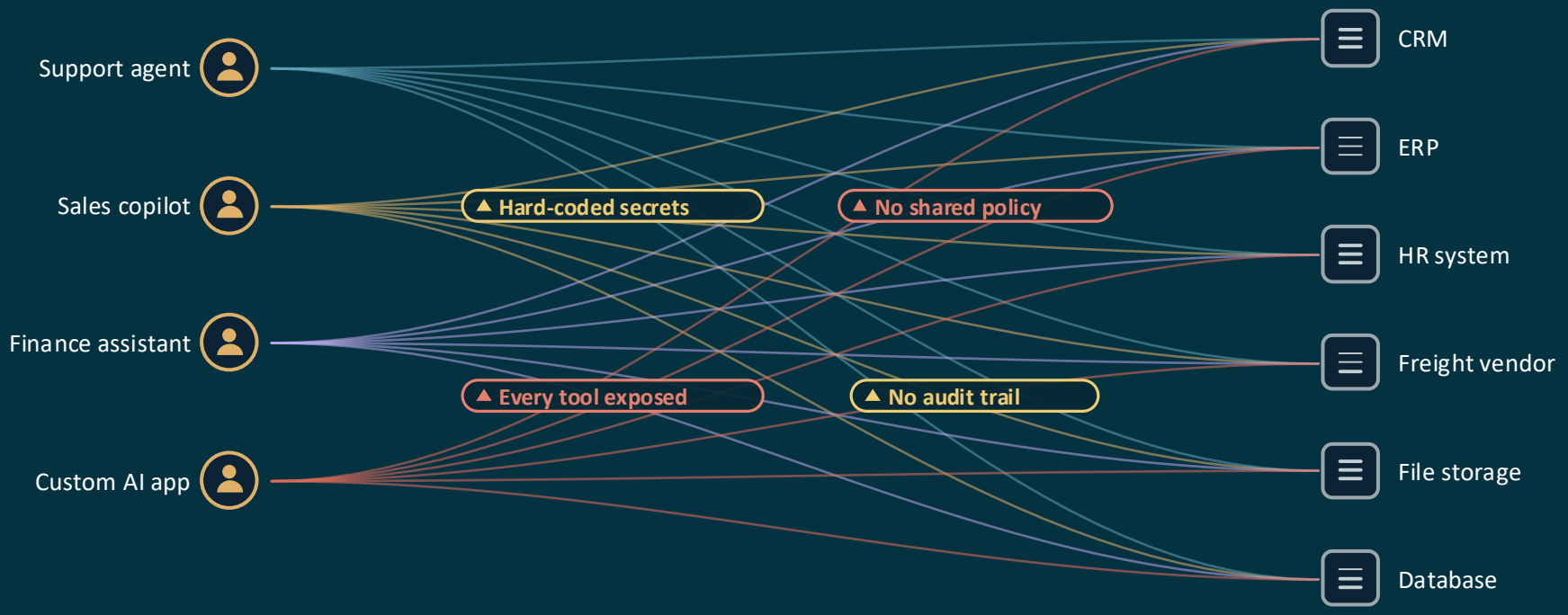
Control lives outside the agent

Oversight the gateway enforces: approval evidence from the workflow · end-user confirmation for sensitive tools · people alerted on policy violations

Swap the model, the framework, or the agent. The control stays where it is.

Every agent wired straight to every tool.

Each with its own keys, its own rules and its own blind spots.



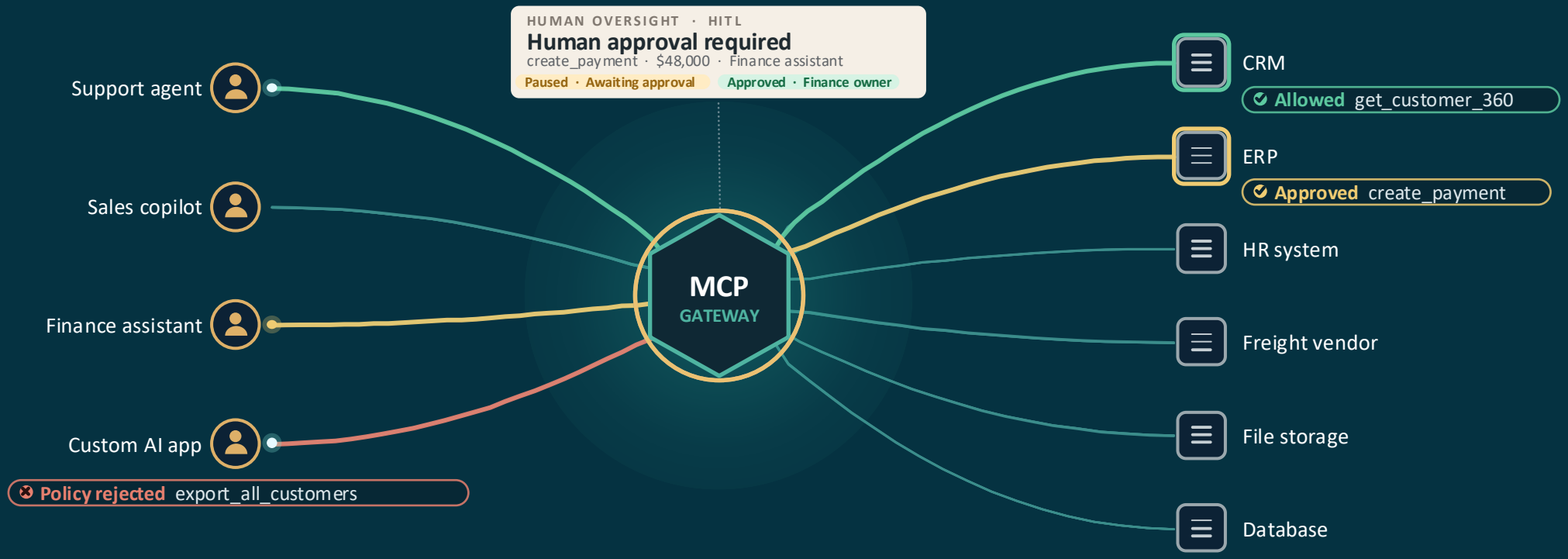
24
point-to-point connections

24
separate credentials

0
shared audit trails

One governed path.

Oracle Integration MCP Gateway sits between every agent and every tool.



1
endpoint for every agent

Brokered
credentials, never shared

Every call
traced and audited

Next steps

1. **Visit the Oracle Integration page**
   www.oracle.com/integration

2. **Attend a free hands-on training**
   www.blogs.oracle.com/soacommunity/links

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In-app surveys


ORACLE