Best Practices for integrating Oracle E-Business Suite and Oracle FA SaaS

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Agenda

1 Business Integration Patterns

2 Implementing Integration Patterns

3 Cloud Topology Considerations

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Business Integration Patterns

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Integration between Fusion Applications and E-Business Suite

Business Drivers for building integrations

- Share customer & item information with your Marketing and Sales Automation Applications

- Facilitate 360 degree / unified view of customer by retrieving transactional information from EBS applications

- Allow Order Capture functionality in CRM to be seamlessly integrated with Order Management in EBS

- Enable phased migration – Cloud based FA Expenses Management to co-exist with General Ledger module in EBS

- Modernizing of on premises applications by using infrastructures available in FA

Synchronous Request /Response

Real-time processing of requests

What's it?:
Client sending a real-time request either to retrieve details or to perform a task by the external application

When would this be used?:
- To get the latest information from the system of record
- To have a task performed in external system as part of one atomic unit of work

Use cases:
- Sales Cloud fetching a list of service requests / orders from E-Business Suite application for providing an unified view of customer
- Sales Cloud sending a credit check request to EBS application to get the credit status of the customer

Fire-and-Forget / Asynchronous Response

Near real-time processing of events / requests

What's it?:
Client sending business event notifications to specific target applications with / without expectations about responses

When would this be used?:
- To do near real-time data synchronization
- To allow down stream systems to react to the business event
- Responses will be sent later by the target application

Use cases:
- Marketing Cloud sending ' Convert Opportunity to Quote / Order' business event notification to E-Business Suite application for creating a Quote / Order
- Organization Created ' events raised in EBS need to be forwarded to Sales Cloud to allow Sales Cloud to have a local copy of Organizations.

Publish / Subscribe

Multiple subscribers interested in a business event

What's it?:
Loosely coupled integration allowing publisher to raise an event without knowing the subscribers

When would this be used?:
- Multiple applications interested in having local copies of data
- More than 1 subscriber is interested in the raised event

Use cases:
- E-Business Suite PIM could be system of record for Items. And multiple FA modules will be interested in inserts / updates
- Employee terminated event raised by FA HCM will be subscribed to by multiple applications on premises to perform relevant actions

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Data Integration

Large dataset / File processing

What's it?:
Large amount of data matching certain characteristic will be sent to target application via file for processing

When would this be used?:
- No need for real-time synchronization
- Eliminate overheads incurred due to processing of large ses of data real time

Use cases:
- EBS Master data such as customer / item synchronizations happen at periodic intervals instead of real time.
- Transfer daily bank transactions to Oracle Public Cloud Fusion General Ledger

Implementing Integration Patterns

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On-Premise to SaaS

Inbound: Invoking Fusion Applications Web Service

- Standards Compliant Web Services
  - SOAP 1.1, WSDL 1.1, WS-Security 1.1, REST, SSL, WS-Addressing
  - Authentication via WS-Security Username token or SAML*
  - Message Protection via SSL or WS-Security 1.1 encryption
- Synchronous or Asynchronous Request-Reply Patterns
  - Asynchronous callback correlation done using WS-Addressing
- Supports extensible attributes (flex fields)
- CRUD & Non- CRUD style services for a given object
  - e.g. *Worker.changeHireDate(), ProjectTask.createTask(), ConvertLeadtoOpportunity()*
- May incorporate federated queries
- May be wrappers for batch style jobs

Oracle Sales Cloud, HCM & ERP Cloud Adapters

Runs on SOA Suite (on premises), SOA Suite Cloud Service & Integration Cloud Service

- Point and Click Integration between Fusion Apps and your Cloud/On-premise Apps
  - **Accelerates time-to-market and enable agile delivery**

- Minimal FA Cloud expertise needed to build integrations
  - **Brings overall costs down**

- Comprehensive Integration on multiple channels
  - **Bidirectional connectivity with SaaS and On-premise Applications**

- Connects Anywhere Runs anywhere
  - **Connects to Sales Cloud on-premise or in the Cloud**
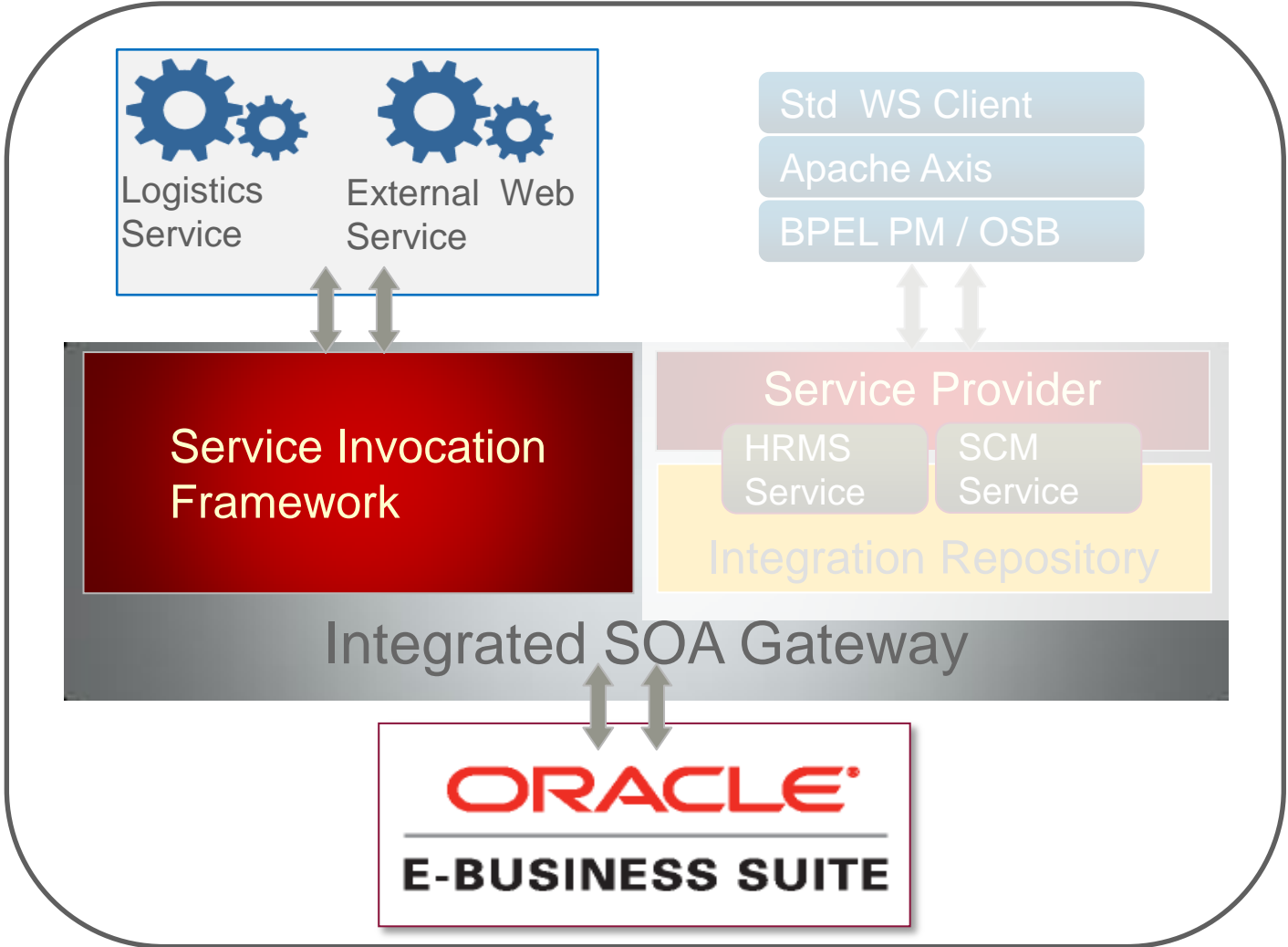 - **Runs on-premise or in the Cloud**

Invocation of FA Services using Cloud Adapters

Generates easy to understand , task specific data models – reduces transformation development costs
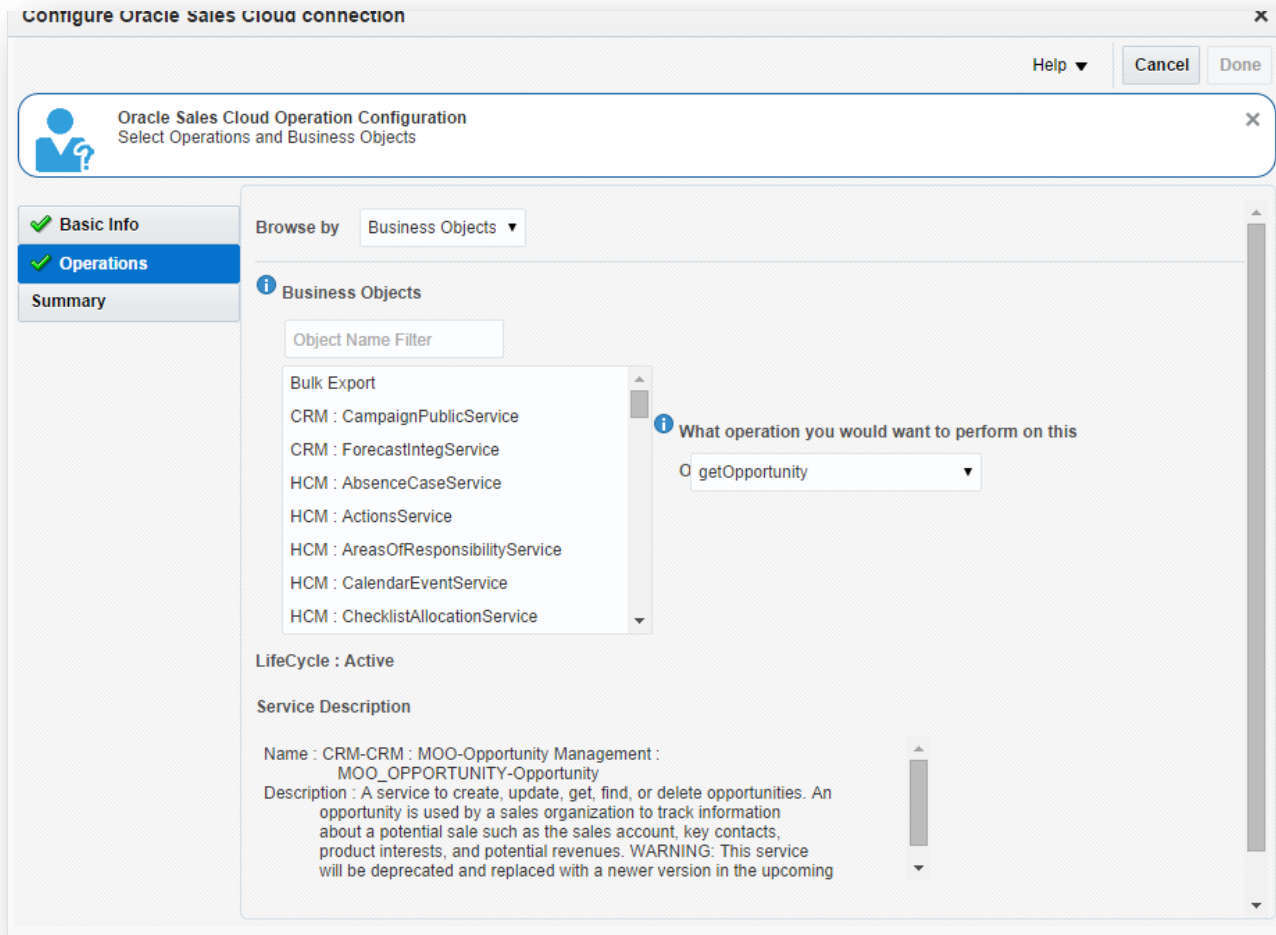
- Discover your Business Objects and available Operations.

- Support for Standard and Custom Objects and Attributes

- Contextual Service Description available for Objects/Operations

- Significantly reduced mapping and Integration effort
  - Non-polymorphic structures (applies to custom objects)
  - Only selected Object and Operations exposed in the interface
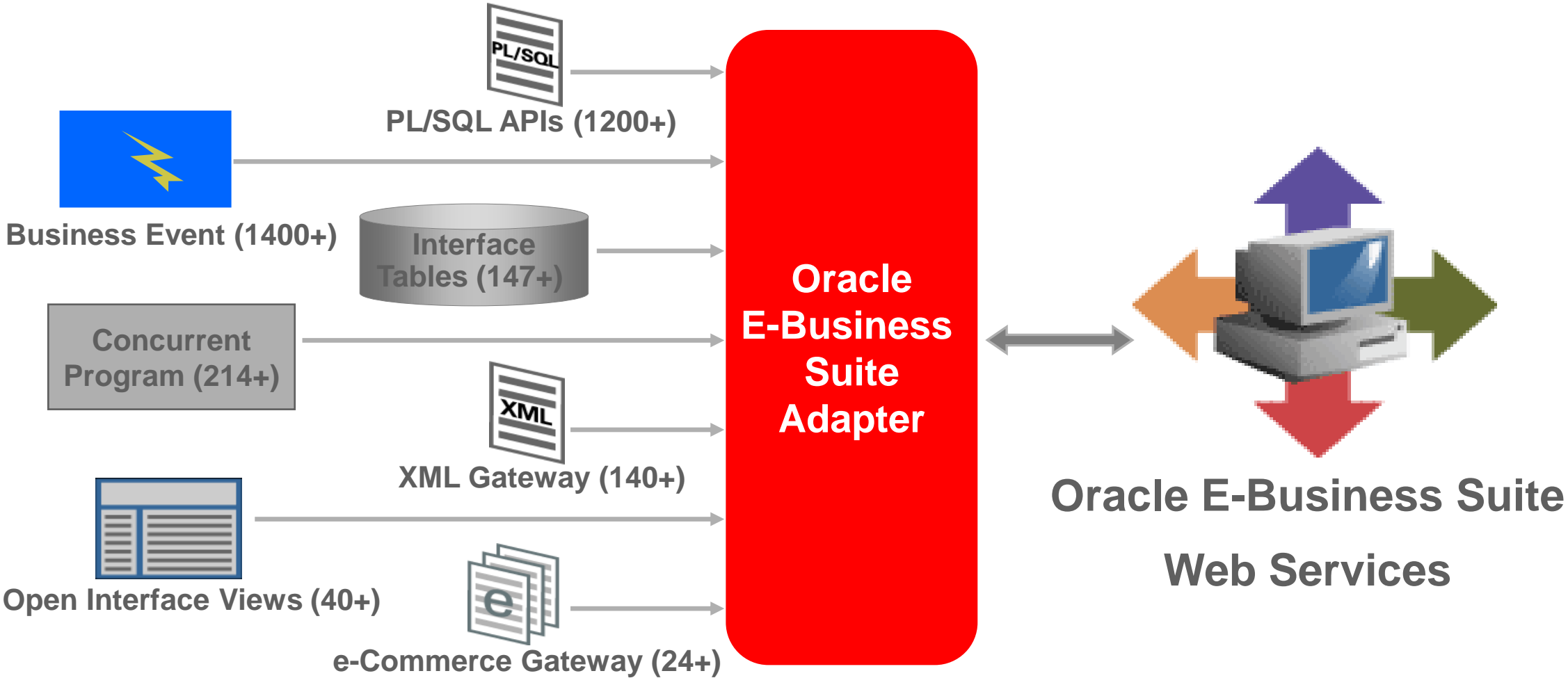
- Simplified Security Configuration

EBS Service Invocation Framework does outbound invocation

SaaS to On-Premise

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Exposing EBS Integration Interfaces as Services using EBS Adapter

PL/SQL APIs (1200+)

Business Event (1400+)

Interface Tables (147+)

Concurrent Program (214+)

XML Gateway (140+)

Open Interface Views (40+)

e-Commerce Gateway (24+)

Oracle E-Business Suite Adapter

Oracle E-Business Suite

Web Services

Support for FA Business Events Subscription in OSC, HCM, ERP Adapters
Runs on SOA Suite (on premises), SOA Suite Cloud Service & Integration Cloud Service

FA Business Events

❖ Published via SOA Event Delivery Network

– Notify subscribers of important changes to business objects or process state

– *e.g. Customer Created, Order Fulfilled, Item Shipped*

– Key extensibility point for integration purposes in on-premise mode

Adapter support for FA Business Events

❖ Ability for customers to browse and subscribe to FA Business Events within the adapter

❖ Event Payloads to be self contained/full fidelity business documents.

❖ Subscriptions can be constrained via Filters

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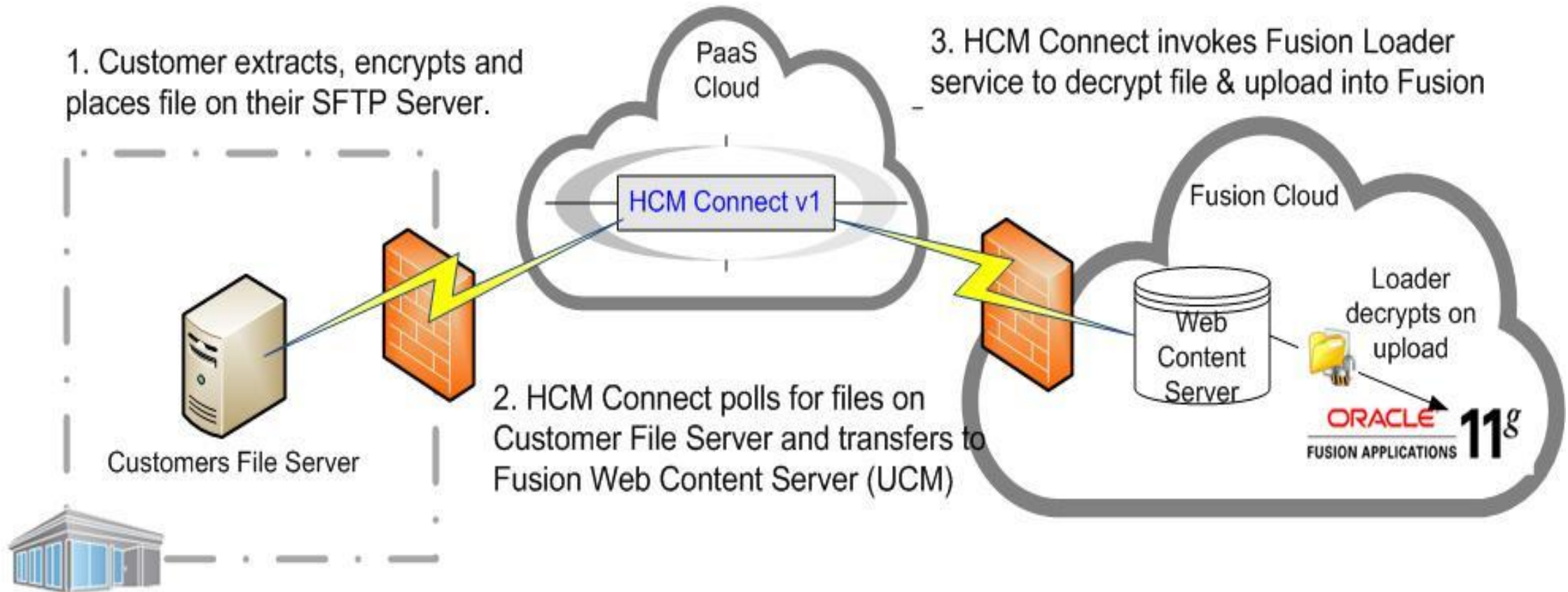# Subscription to FA Business Events using Cloud Adapters

- React to Events in Oracle Sales Cloud (P2URL)
  - Subscribe to Business Events in Sales Cloud
  - Auto-Discovery of Events
  - No configuration required at Sales Cloud end
  - Event Filters
  - Option to Callback Sales Cloud with responses
  - Seamless integration with Fusion Applications
  - Automatic registration of endpoint with Fusion Applications / SOA during ICS Flow Activation / Composite & OSB Project deployment
- Secured
  - HTTP Basic Authentication
- No swivel chair integration
  - No manual configuration needed within FA

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Data Upload to / from SaaS

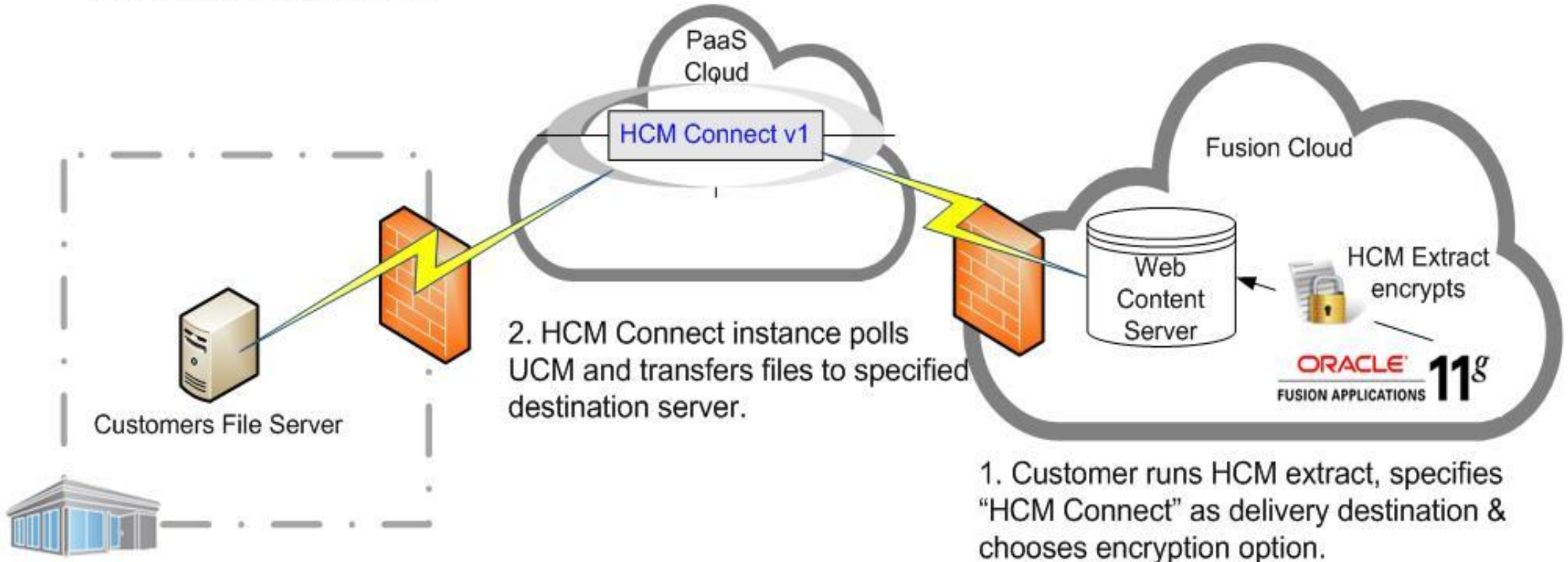# Data Upload from On Premises to SaaS (FA HCM)

TRANSFERS IN TO ORACLE FUSION

PROVISIONED ON PAAS

1. Customer extracts, encrypts and places file on their SFTP Server.

PaaS Cloud

HCM Connect v1

3. HCM Connect invokes Fusion Loader service to decrypt file & upload into Fusion

Fusion Cloud

Web Content Server

Loader decrypts on upload

ORACLE FUSION APPLICATIONS 11^g

2. HCM Connect polls for files on Customer File Server and transfers to Fusion Web Content Server (UCM)

Customers File Server

Data Upload from SaaS (FA HCM) to On Premises

TRANSFERS OUT OF ORACLE FUSION

PROVISIONED ON PAAS

PaaS Cloud

HCM Connect v1

Fusion Cloud

Web Content Server

HCM Extract encrypts

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Customers File Server

2. HCM Connect instance polls UCM and transfers files to specified destination server.

1. Customer runs HCM extract, specifies "HCM Connect" as delivery destination & chooses encryption option.

Cloud Topology Considerations

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Where is Your Integration Center of Gravity?

The Data Gravity defines the optimal integration topology

ON-PREMISE

Majority of Applications on-Premise [with some 3rd party or Oracle Cloud Applications]

Oracle SOA Suite
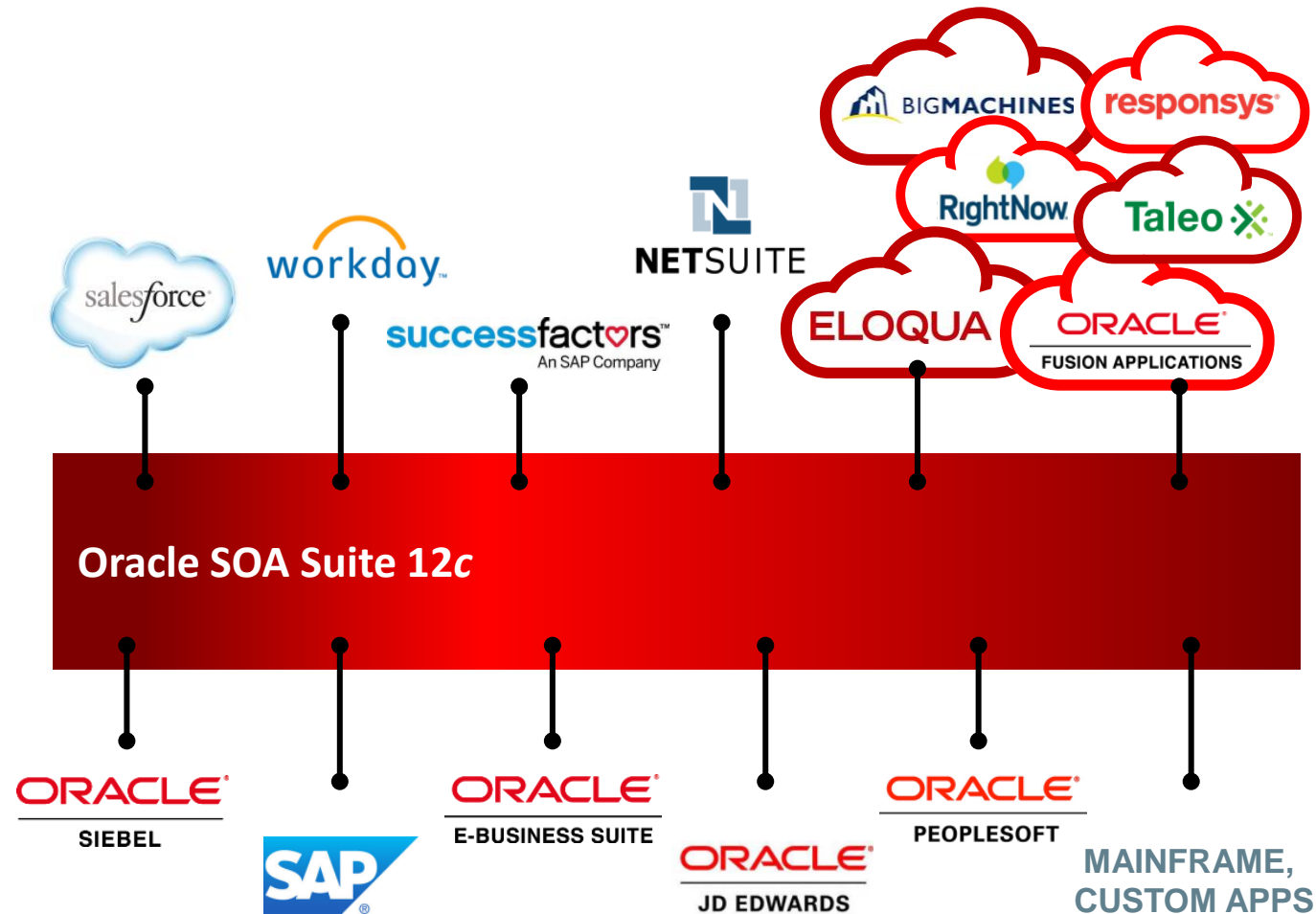
ORACLE CLOUD

Majority of SaaS Applications on Oracle Cloud [with some applications on-premise]

**Oracle Integration Cloud Service**

Cloud Adapters Option
## Bridging Cloud Applications with On-Premises

- Unified integration platform for both cloud and on-premise applications
- Point and click modeling for connectivity to cloud apps using Cloud Adapters
- Secure connectivity & session management
- Cloud Adapter SDK

Expose On Premise Web Services: Open Firewall
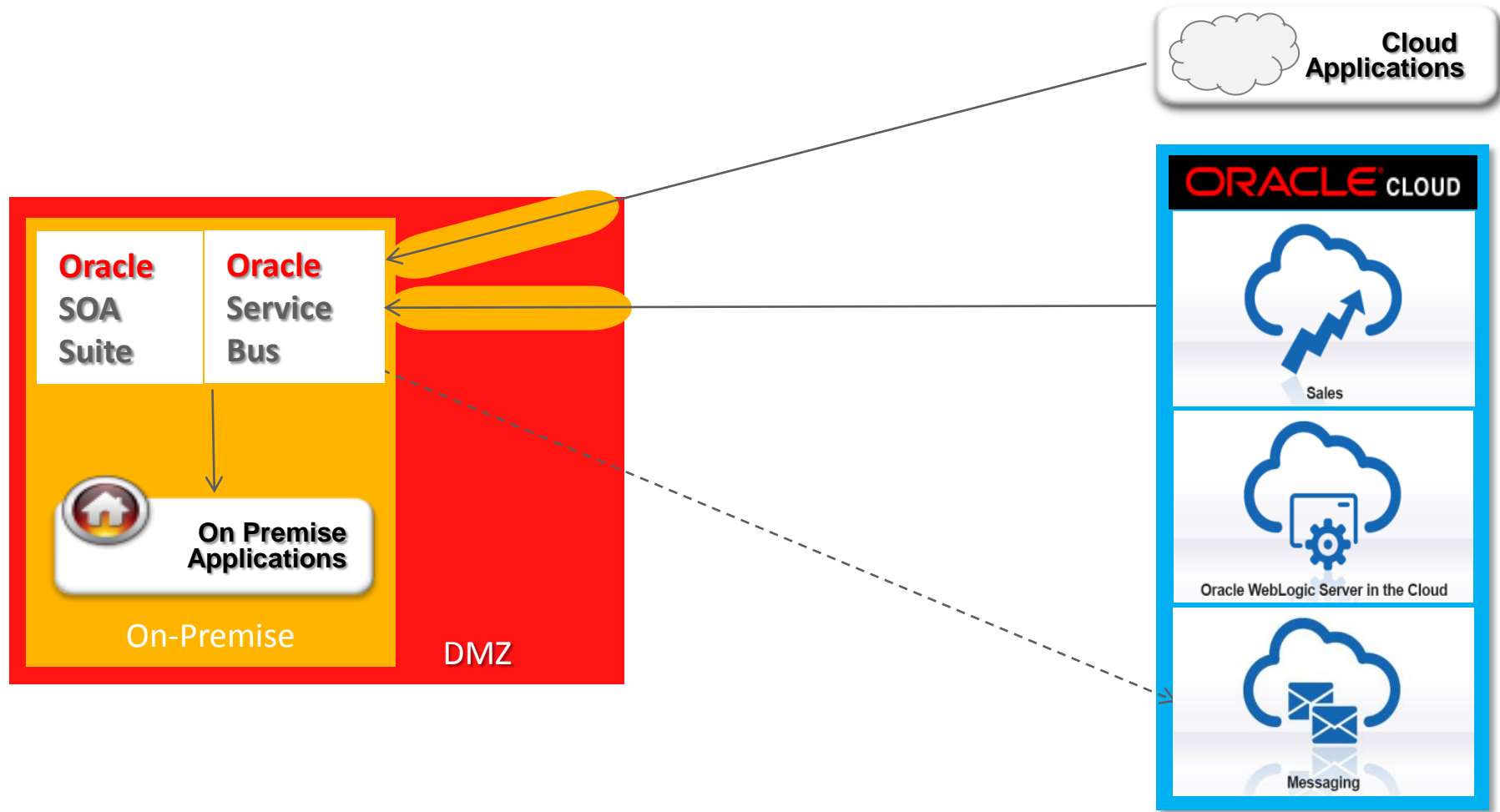
Expose On Premise Web Services: Reverse Proxy
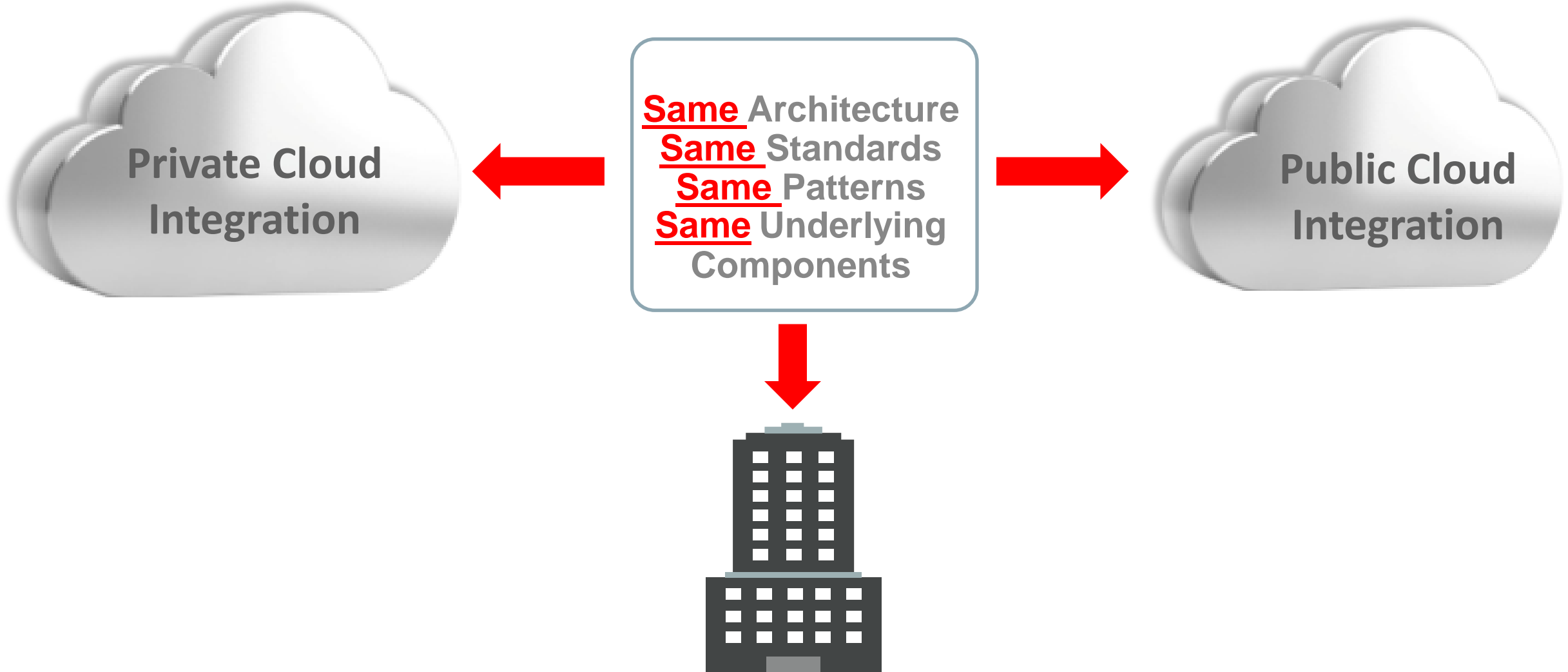## Light Weight On-Premise Cloud Agent
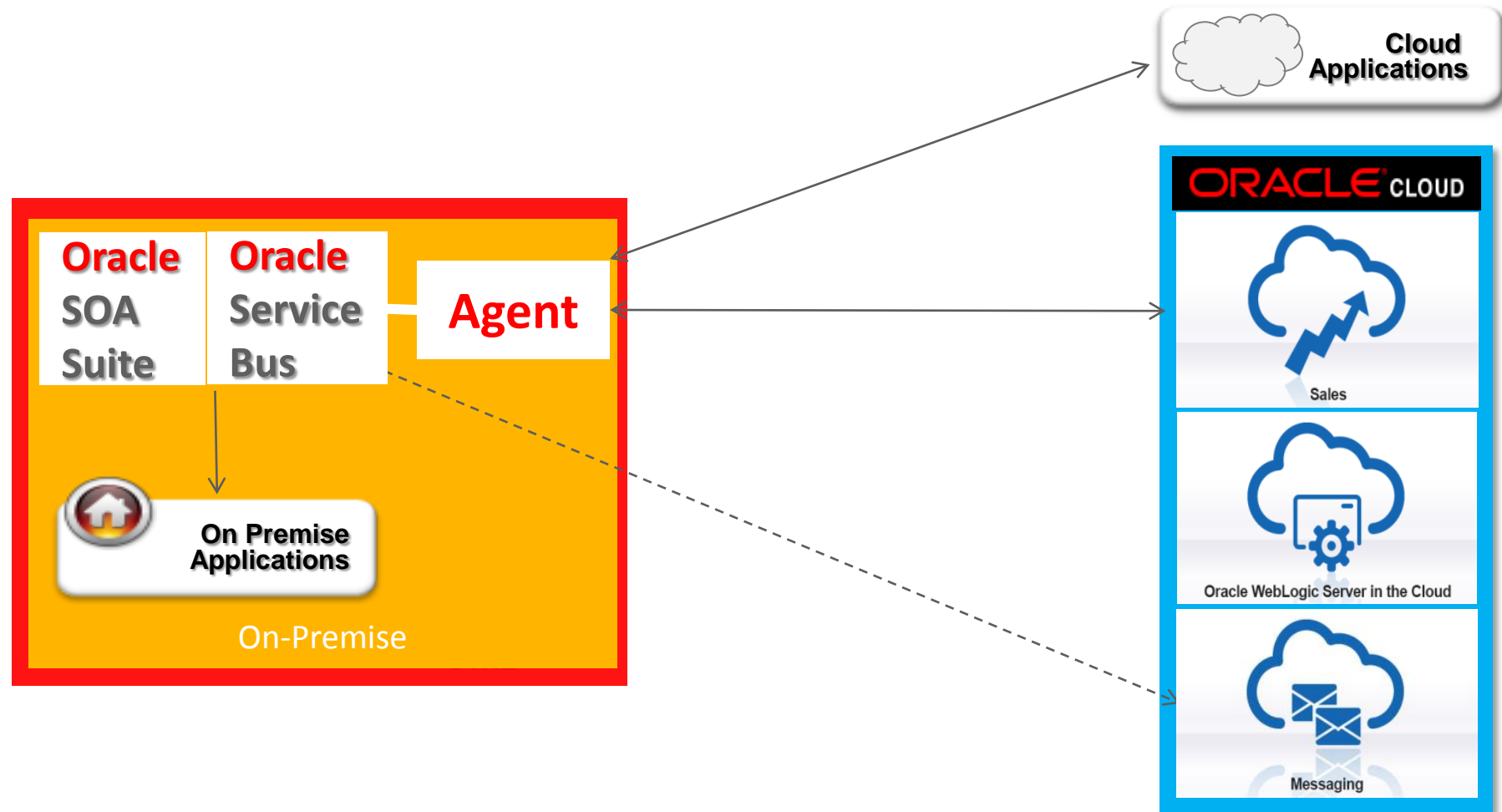
Secure On-Premise Integration

- Lightweight Agent: deployed on-premise ensures secure connectivity to your on-premise applications

- Firewall friendly: No Hole Punching/Pinholes

- Support: On-Premise Applications
  - E-Business Suite, Siebel, SAP, Peoplesoft, JDE etc..
  - Database, FTP, JMS,AQ,MQ etc..

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Deploy Anywhere

Single technology for On-Premises and Cloud

Private Cloud Integration

**<u>Same</u> Architecture
<u>Same</u> Standards
<u>Same</u> Patterns
<u>Same</u> Underlying Components**

Public Cloud Integration

Summary: Integrating Fusion SaaS Applications with EBS

✓Identify the Business Integration Pattern and use the best practice implementation

✓Adapters available to establish connectivity with SaaS and on premises applications

✓Oracle provides consistent platform for building and delivering integrations on premise and on cloud

Q&A

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