



Mastering ODICS with Big Data Cloud Service Compute Edition

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Program Agenda

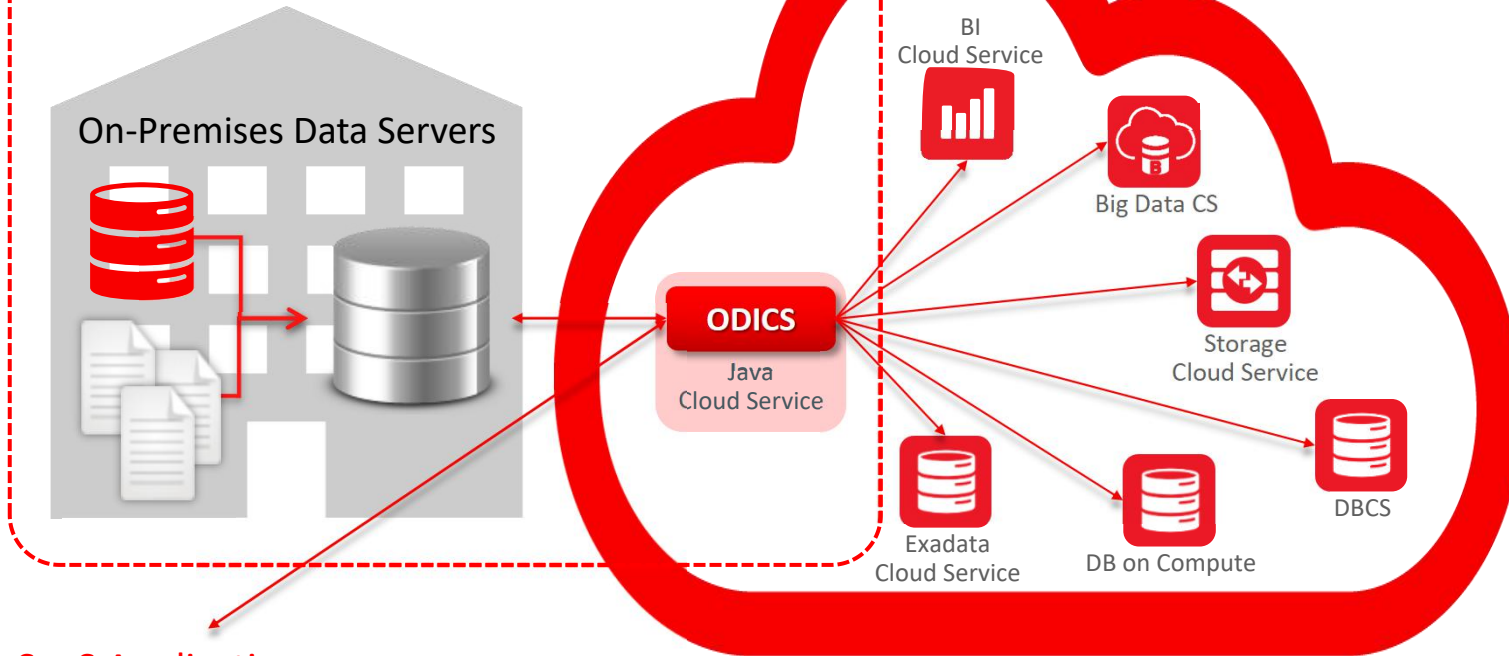
- 1 Oracle Data Integrator Cloud Service (ODICS)
- 2 Big Data Cloud Service Compute Edition (BDCS-CE)
- 3 ODICS and BDCS-CE Architecture
- 4 Use Cases
- 5 Demo

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Oracle Data Integrator Cloud Service

Oracle Network Cloud Service VPN



SaaS Applications



On-Premises to Oracle Cloud

- ODICS can integrate with on-premises resources.
- With Oracle VPN, Oracle Cloud becomes an extension of the customer network.
- Without VPN, on-premises data can be transferred to the Cloud with ODI technologies.

Oracle Public Cloud

- ODICS runs on Java Cloud Service for high availability.
- ODICS natively integrates with other Oracle public cloud services.

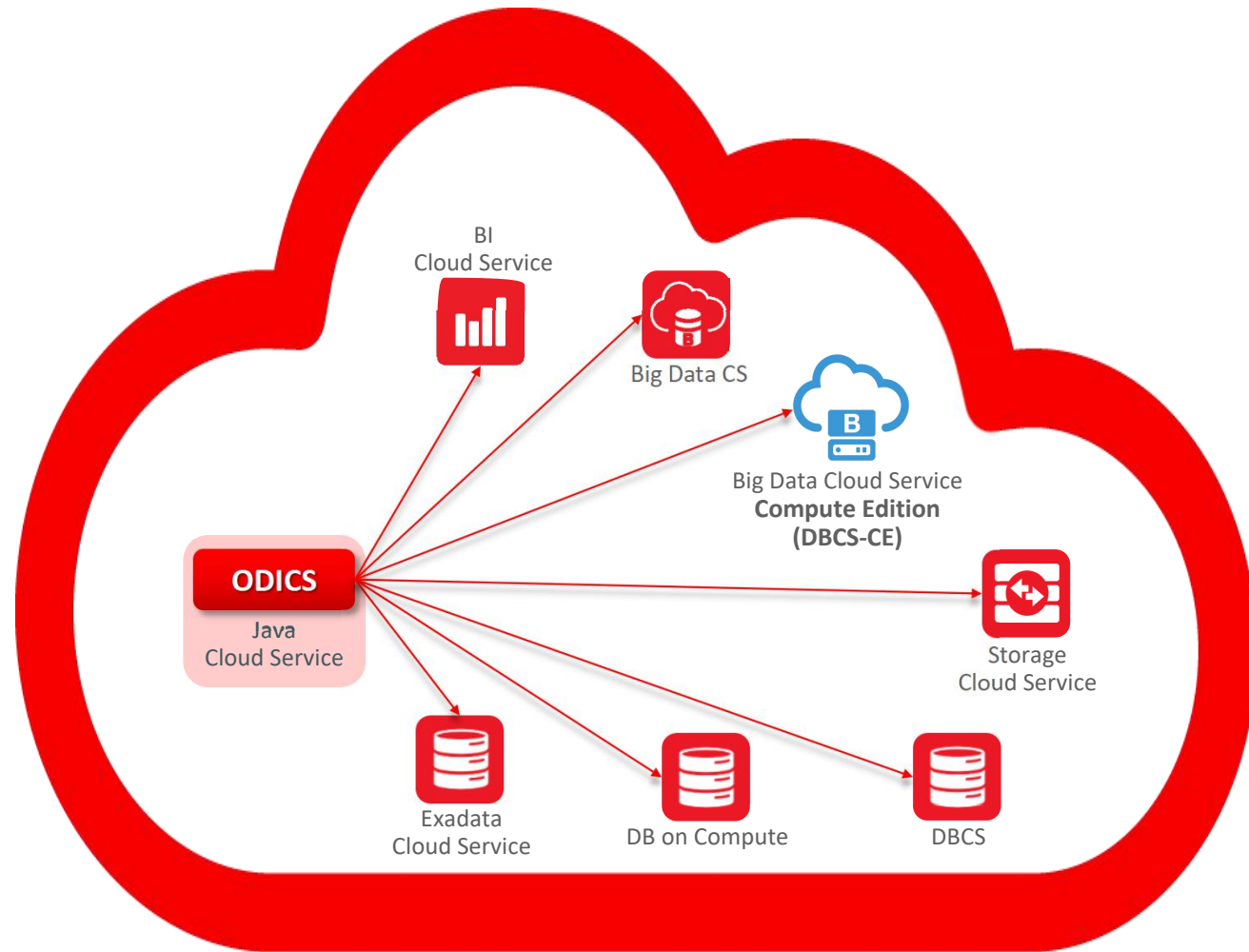
Software As a Service (SaaS)

- ODICS can integrate with Oracle SaaS and non-Oracle SaaS applications via RESTful services or third party adapters.

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Oracle Data Integrator Cloud Service



Big Data Cloud Service (BDCS)

- Provisioned and fully configured Hadoop and Spark clusters on demand.
- Dedicated Compute Shapes with Attached Storage.
- Pre-configured Software such as Big Data Connectors, ODI, Big Data Spatial, and Oracle R.
- Big Data SQL integration.

Big Data Cloud Service - Compute Edition (BDCS-CE)

- Hadoop and Spark delivered as a managed, elastic, integrated platform.
- Independent Compute and Storage.
- REST APIs to access all functionality.
- Integration with other Oracle cloud services via association.

Big Data Cloud Service – Overview



Key Features

- Hadoop, Spark, Kafka, Hive, Pig delivered.
 - Cloudera Hadoop Distribution
 - Oracle Big Data Connectors + Oracle R Distribution
 - Oracle Big Data Spatial and Graph
 - Oracle Data Integrator Enterprise Edition
- Dedicated Compute Shapes with Attached Storage
 - Start as small as 3 nodes and grow seamlessly
 - Burst/Shrink Compute when Required
 - Embedded Edge Nodes
 - Full Security
- Platform to Integrate Big Data with Oracle Database
 - Big Data SQL Cloud Service as an Add-On Service

Big Data Cloud Service – Compute Edition Overview



Big Data Cloud Service Compute Edition (BDCS-CE)

Key Features

- Apache Hadoop, Spark, Hive, Pig.
 - Oracle Hadoop Distribution, similar to Hortonworks.
 - Kafka is a separate cloud service: Event Hub Cloud Service.
- Independent Compute and Storage
 - Independently scale compute or storage.
 - Use Storage Cloud Service and Object Store as the data lake.
 - Use Alluxio as the in-memory caching layer for fast data access.
 - Scale up and down BDCS-CE clusters.
- REST APIs
 - REST based API access to all functionality.
- Cloud Service Associations
 - Automatic integration with Oracle, Event Hub, and MySQL cloud services through association.

Big Data Cloud Service – Compute Edition



Big Data Cloud Service Compute Edition (BDCS-CE)

Use Cases

- Streaming Data Analysis
 - High Performance connections with Event Hub Cloud Service.
 - In memory caching layer for fast access to Storage Cloud Service.
 - Spark Streaming.
- Interactive Data Analysis
 - [Apache Zeppelin-based notebooks](#).
 - Ability to import/export notes.
 - Support for Scala, Hive, Spark SQL, Python, and R.
- Batch Jobs – ETL, ELT, Cleansing
 - Job scheduling
 - REST APIs to launch jobs.
 - Client-side CLI

Configuring ODICS for Big Data CS – Compute Edition



Big Data Cloud Service Compute Edition (BDCS-CE)

Configuration Steps:

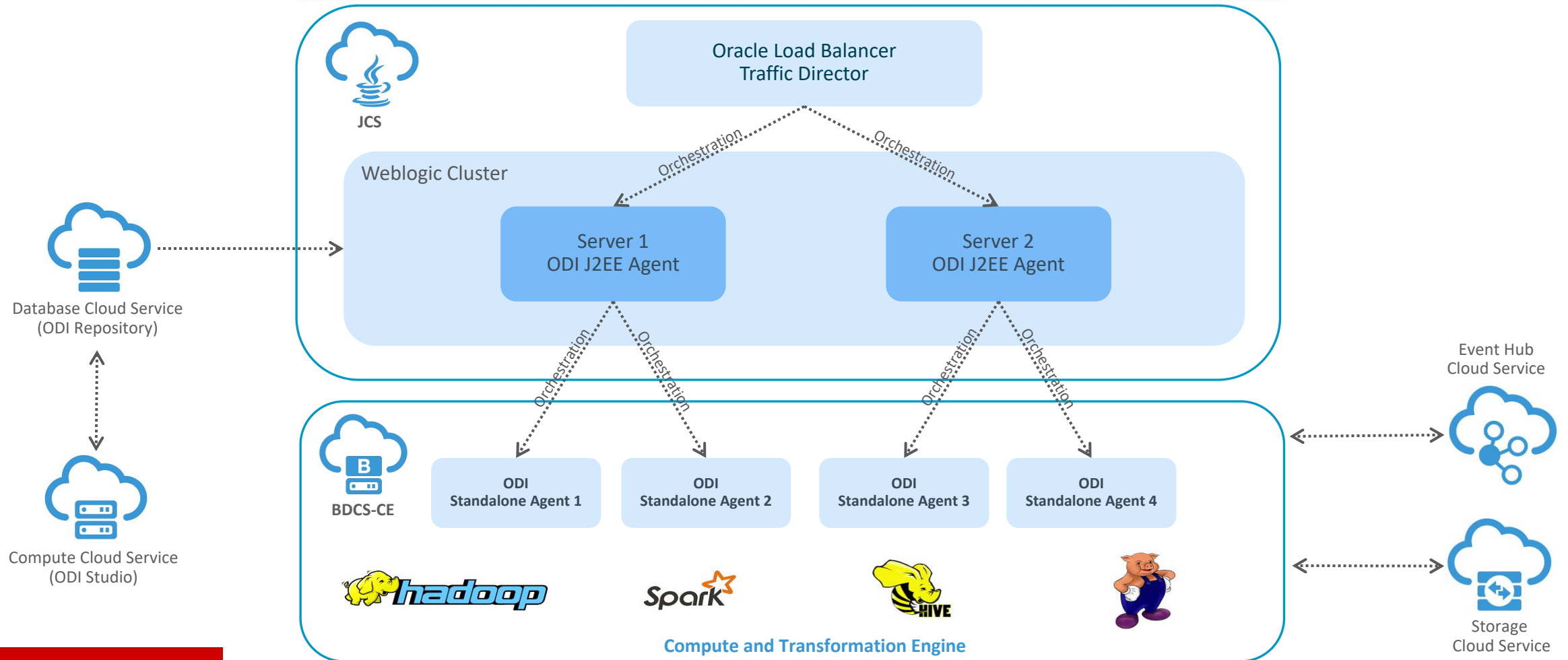
- Provision ODICS
 - Create an instance of JCS.
 - Choose Software Release and Software Edition.
 - Add the Load Balancer option, and provision JCS.
 - Install ODI and create an ODI repository on DBCS.
 - Create at least two ODI Weblogic Managed Servers for failover.
- Provision BDCS-CE
 - Create an instance of BDCS-CE.
 - Install at least two ODI standalone agents.
 - Configure the agent to access Hadoop paths, libraries and jars.
 - Install additional software (i.e. Sqoop, etc).
 - Configure the ODI Topology for Hadoop, Hive, Spark, and Pig.
- Access Configuration
 - On DBCS, enable access rules to allow both JCS and BDCS-CE to access the ODI repository.
 - On JCS, enable access rules to access BDCS-CE.
 - On BDCS-CE, enable access rules to access the ODI repository on DBCS.

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ODICS and BDCS-CE Architecture

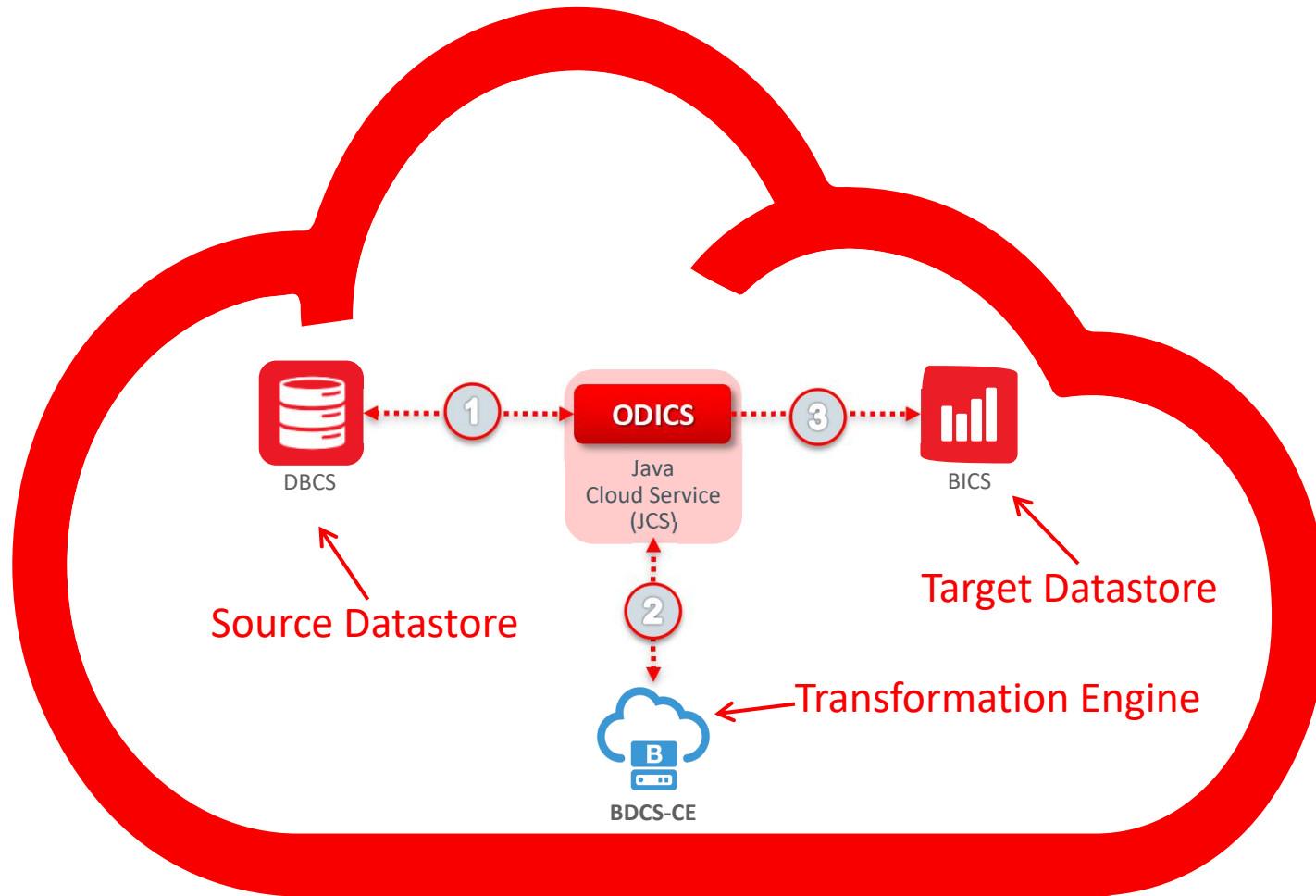
ODICS



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Use Case: Transform SQL Data into BDCS-CE and load it into BICS



1. ODICS extracts data from DBCS.
2. Data is transformed on BDCS-CE.
3. Transformed Data is loaded from BDCS-CE into BICS.

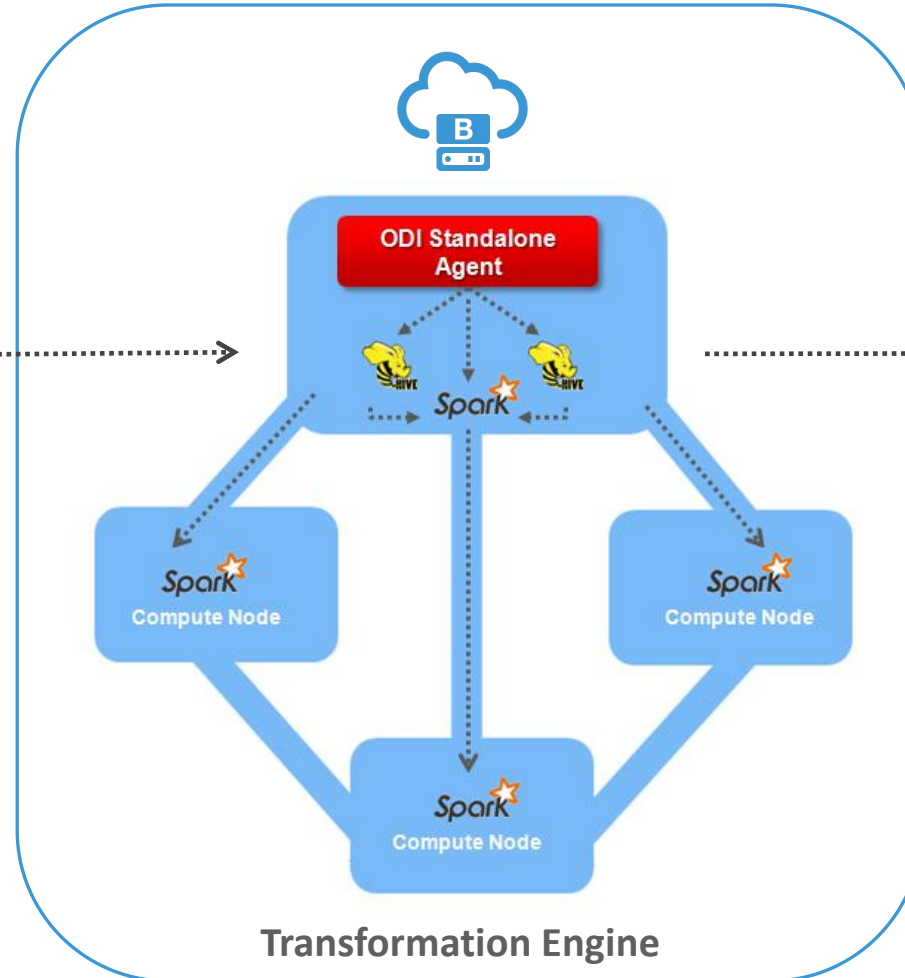
Use Case: Transform SQL data in BDCS-CE and load it into BICS

Big Data Cloud Service – Compute Edition

Database Cloud Service

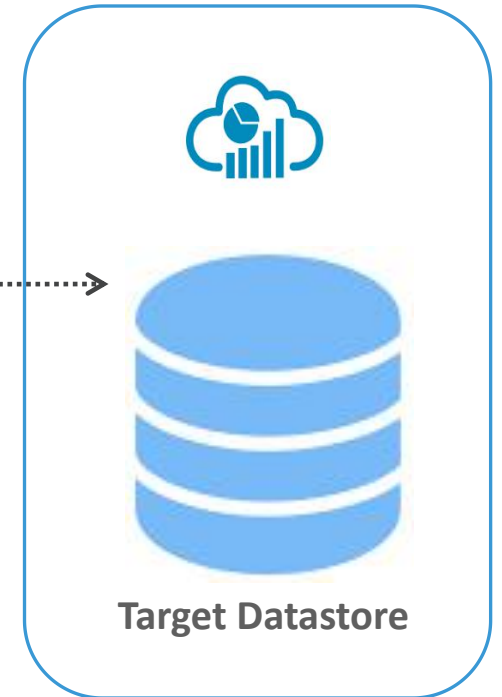


Extract



Load

BICS with Database Cloud Service



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Find More Information

Oracle Big Data Cloud Services

Oracle Big Data Cloud Service Compute Edition

<http://cloud.oracle.com/hadoop>

Oracle Data Integrator Cloud Service

<https://cloud.oracle.com/data-integrator>

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