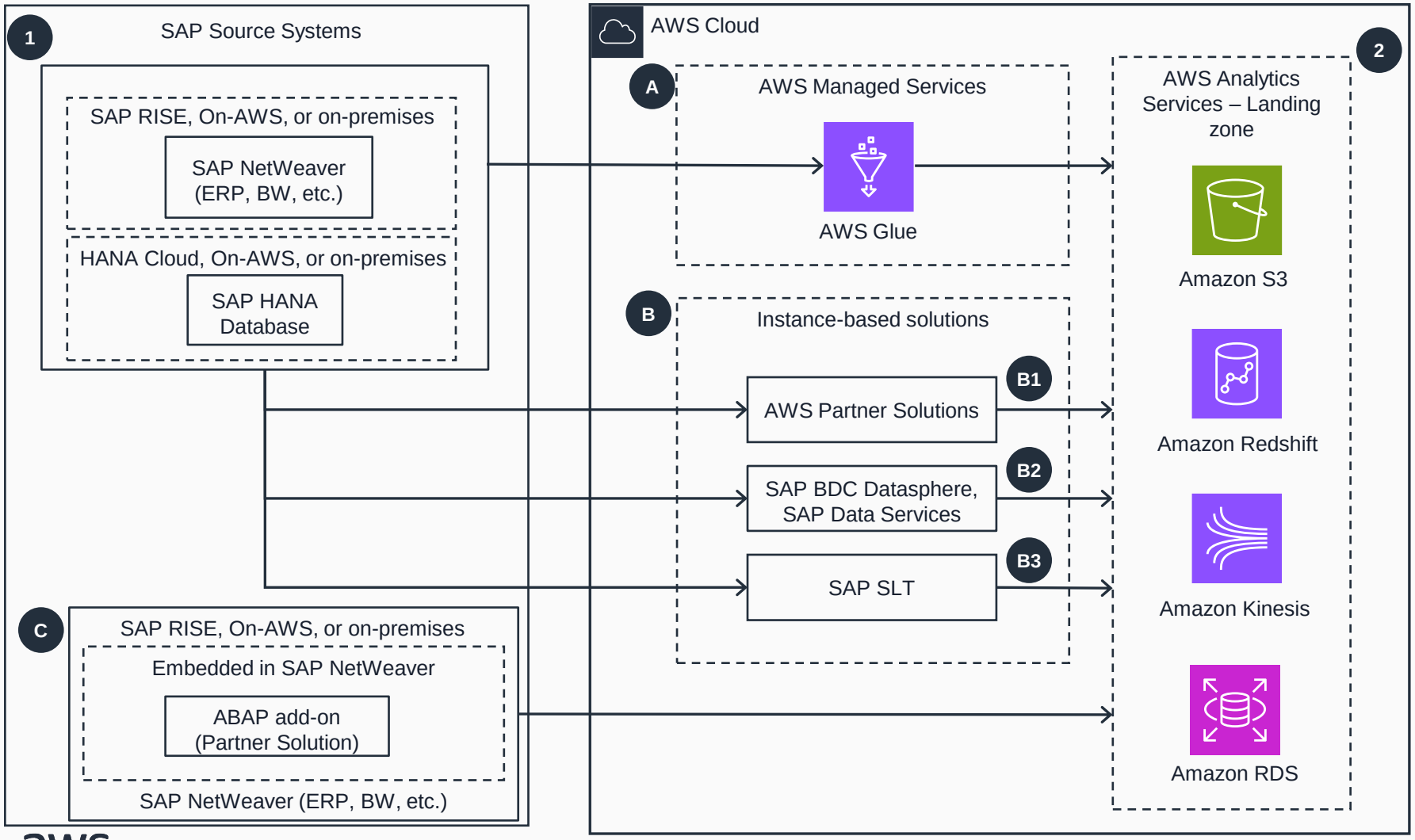
Guidance for SAP Data Integration and Management on AWS

This reference architecture shows various options for ingesting data from SAP systems to AWS. These architecture patterns complement SAP supported mechanisms using AWS Services, SAP Products, and AWS Partner Solutions. This slide shows Step 1.



Reviewed for technical accuracy September 24, 2025

AWS Reference Architecture

1 SAP Data hosted in SAP RISE, HANA Cloud, on-AWS or on-premises systems can be extracted in real-time or batch, full or incremental mode from SAP NetWeaver systems such as SAP ECC, SAP S/4HANA, SAP BW, etc. or SAP HANA Database using following options:

A. AWS Managed Services
B. AWS Partner Solutions with dedicated instance
C. AWS Partner Solution embedded in SAP NetWeaver

Options

A **AWS Glue**, a serverless data integration service, offers database-level and application-level data extraction .

B1 AWS Partner Solutions such BryteFlow SAP Data Lake Builder, Theobald Xtract Universal, , and Qlik Replicate offer instance-based solutions for comprehensive data ingestion scenarios.

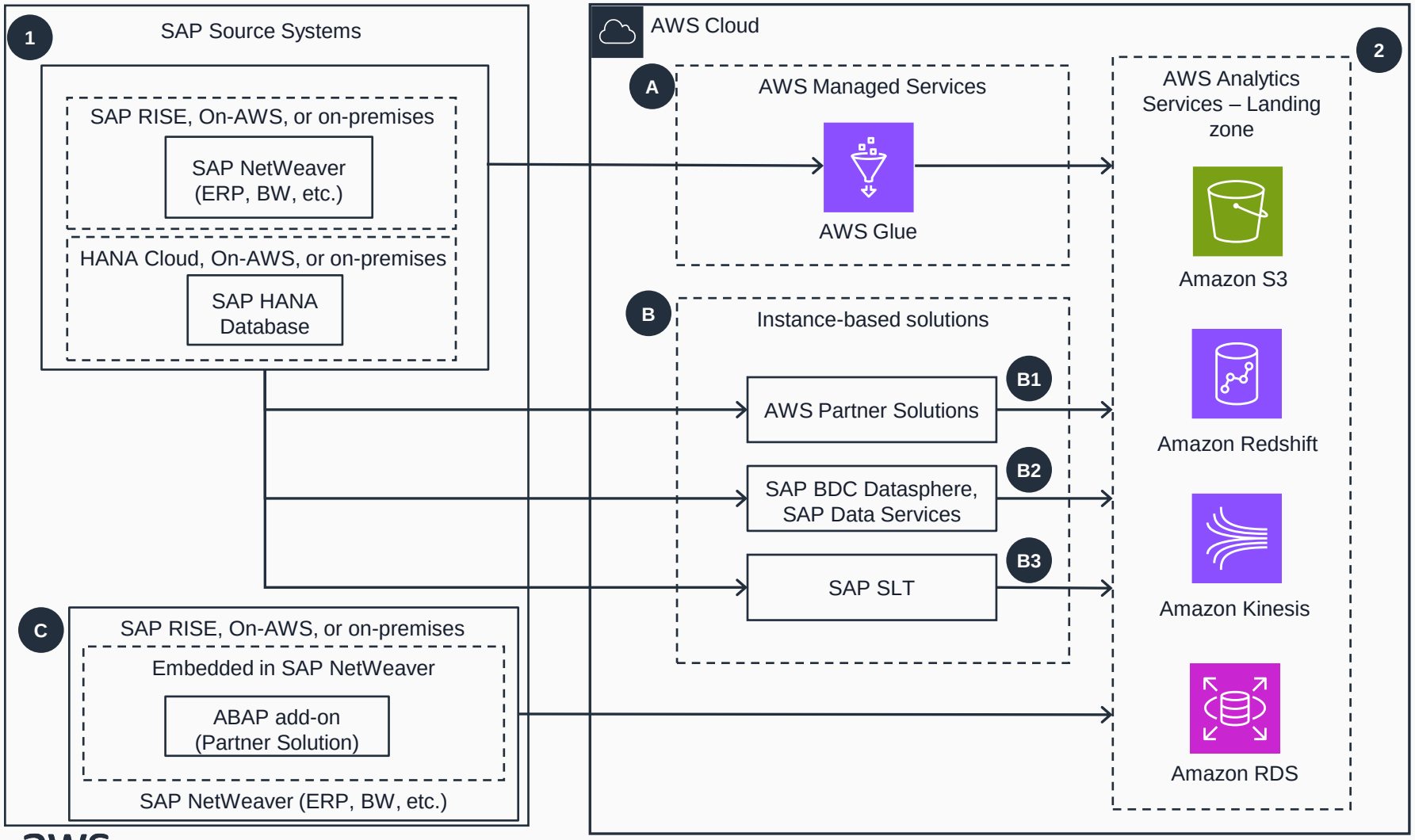
B2 Using SAP native integration, SAP Datasphere , or SAP Data Services sends data to **Amazon Simple Storage Service (Amazon S3)** or **Amazon Redshift.**

B3 SAP SLT replication engine supports replicating data to **Amazon Relational Database Service (Amazon RDS)** using a database connection. AWS Partner Solutions such as Syntax CxLink support streaming data to **Amazon S3** and **Amazon Kinesis** using the ABAP add-on for SLT.

C AWS Partner Solutions embedded in SAP NetWeaver, such as SNP Glue, offer point-to-point data replication from SAP NetWeaver-based source systems to the AWS Cloud.

Guidance for SAP Data Integration and Management on AWS

This reference architecture shows various options for ingesting data from SAP systems to AWS. These architecture patterns complement SAP supported mechanisms using AWS Services, SAP Products, and AWS Partner Solutions. This slide shows Step 2.



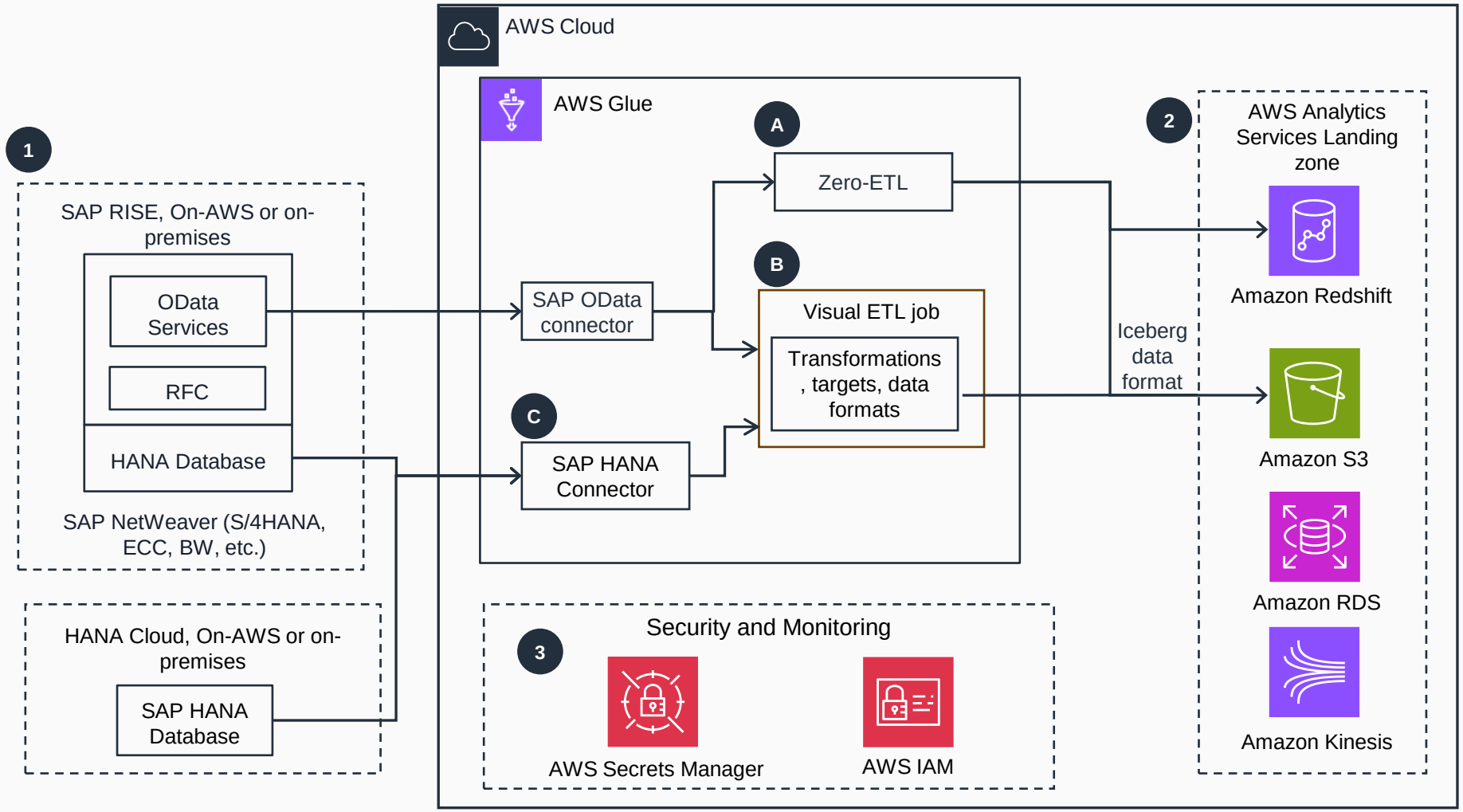
AWS Reference Architecture

2 Data extracted from SAP can land in AWS Services such as **Amazon S3**, **Amazon Redshift**, **Amazon Kinesis** or **Amazon RDS**, combined with non-SAP data, further processed and analyzed using AWS analytics and GenAI services.

Guidance for SAP Data Integration and Management on AWS

A. AWS Managed Services

This architecture diagram shows how to ingest SAP data to AWS using AWS Glue.



1 **AWS Glue** offers both application and database-level data extraction.

Use following AWS Managed Services options to extract data from SAP:

A Configure the SAP OData connector using application credentials. Use no-code Zero-ETL to replicate SAP OData services based on CDS views and BW extractors using change data capture. Glue visual ETL can be used for subsequent data transformations.

B SAP OData connector can be used in visual ETL for additional capabilities such as full load, source data filtering, selection of data formats, data processing units, etc. Generated script can be modified for programmatic control.

C Using database-level extraction, establish a SAP HANA connection in **AWS Glue** Data catalog using properties such as SAP HANA JDBC URL, VPC, Subnet and Security Group. The **AWS Glue** ETL job extracts data from a single HANA table or view in a specific schema or by using a custom query from multiple tables, found in one or more schemas. This connector requires a custom design for change data capture. AWS Glue SAP HANA Connector requires a SAP HANA license that allows database-level access. It does not support SAP HANA databases with only runtime licenses or RISE installations.

2 Once data is available in the landing zone, **AWS Glue** can perform additional data transformation such as join, union, aggregate, filter, renaming fields, dropping fields, adding timestamps, or custom transform.

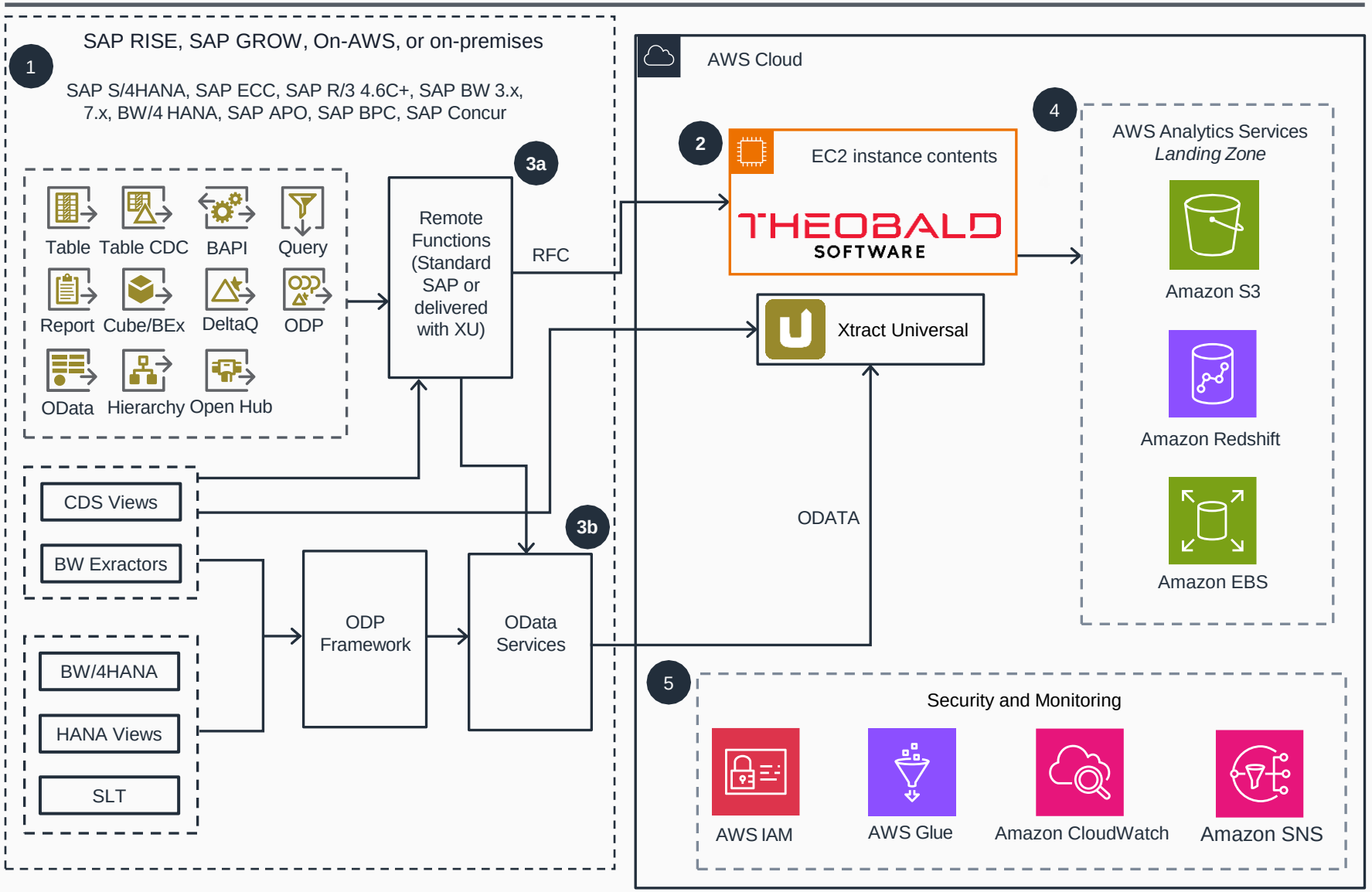
3 **AWS Secrets Manager** stores credentials. Use **AWS Identity and Access Management (AWS IAM)** for access management and role configurations.

AWS Reference Architecture

Guidance for SAP Data Integration and Management on AWS

B1. AWS Partner Solution - Theobald Xtract Universal

This architecture diagram shows how to ingest SAP data to AWS using the Partner Solution Theobald Software Xtract Universal.



1 The AWS Partner Solution Xtract Universal (XU), certified by SAP, provides application-level data extraction with change data capture (CDC) to the AWS services. As a pre-requisite install SAP transport of programs THEO_READ_TABLE and THEO_CDC_ECC or THEO_CDC_S4 required for CDC capability.

2 Theobald Software Xtract Universal (XU) is available as a pre-configured Amazon machine image (AMI) on AWS Marketplace. Follow instructions to configure AMI on an **Amazon Elastic Compute Cloud (Amazon EC2)** instance.

3a For application-level data extraction via SAP RFC, configure SAP RFC based extraction (10 different SAP source objects).

3b For application-level data extraction via ODP, configure SAP ODP over OData based extraction (5 different SAP source objects). XU supports both OData V2 and V4.

4 Initial and incremental data is updated in **Amazon S3** (append only) or **Amazon Redshift/Amazon RDS** (upsert). **Amazon S3** upsert operations require additional efforts and services, such as **Amazon Elastic MapReduce (Amazon EMR) and Amazon Elastic Block Store (Amazon EBS)**. Data catalog and portioning of the schema is configured.

5 Theobald Software XU supports **AWS IAM, AWS Glue** or Apache Airflow (Job scheduling), **Amazon CloudWatch**, and **Amazon Simple Notification Service (Amazon SNS)** for security, monitoring and alerts.

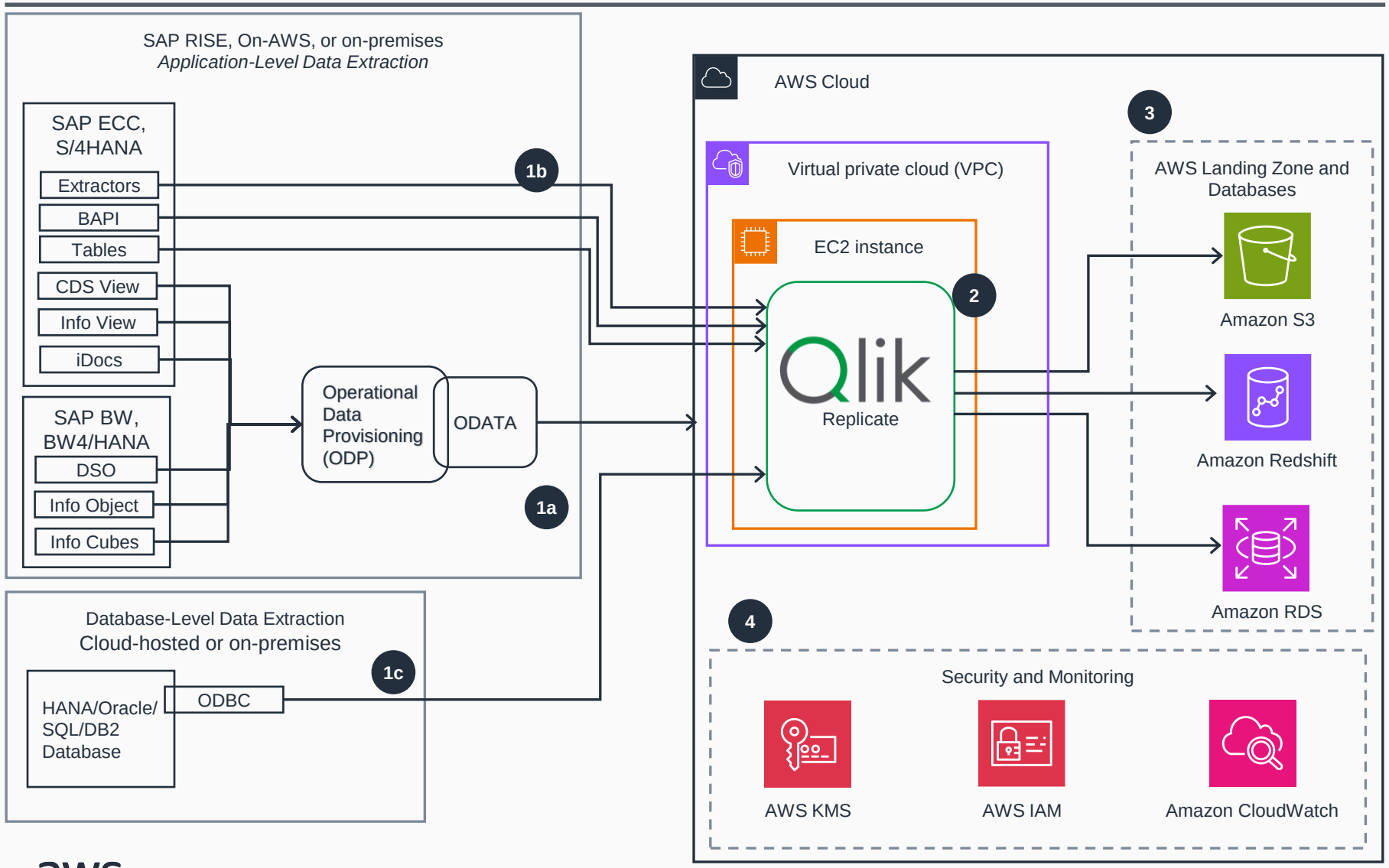
Reviewed for technical accuracy September 24, 2025

AWS Reference Architecture

Guidance for SAP Data Integration and Management on AWS

B1. AWS Partner Solution – Qlik Replicate

This architecture diagram shows SAP ERP connectivity and data integration with Qlik Replicate.



AWS Reference Architecture

The AWS Partner Solution Qlik Replicate, certified by SAP, provides application and database-level replication with change data capture. Install the R4SAP package on source SAP system as a prerequisite for application-level data extraction. Install Qlik Replicate on an Amazon EC2 instance using the Amazon Machine Image (AMI) from AWS Marketplace.

Use the following options to extract data from supported SAP systems:

1a Qlik Replicate supports application-level data extraction with SAP OData services for BW extractors, CDS views, Info views, and iDocs.

1b Qlik Replicate supports data extraction directly from SAP ECC and S/4HANA Tables, BAPI, and extractors.

1c Database-level data extraction (requires a SAP license that allows database access) uses an ODBC connector and a trigger-based mechanism (SAP HANA database) or log-based mechanism (Oracle, SQL, DB2) to replicate data.

2 Key features include near real-time data replication, broad connectivity, support for schema evolution, replication type (one to one, one to many, many to many, and bidirectional), zero downtime operation, data transformation, and high availability.

3 For CDC performed on a SAP Application, initial and incremental data ingestion occurs to **Amazon S3** (append only) and fast copy to **Amazon Redshift/Amazon RDS** (insert, update, delete).

4 Qlik Replicate uses **AWS IAM** for authentication and access. Configure **Amazon CloudWatch** for logging, monitoring and alerts.

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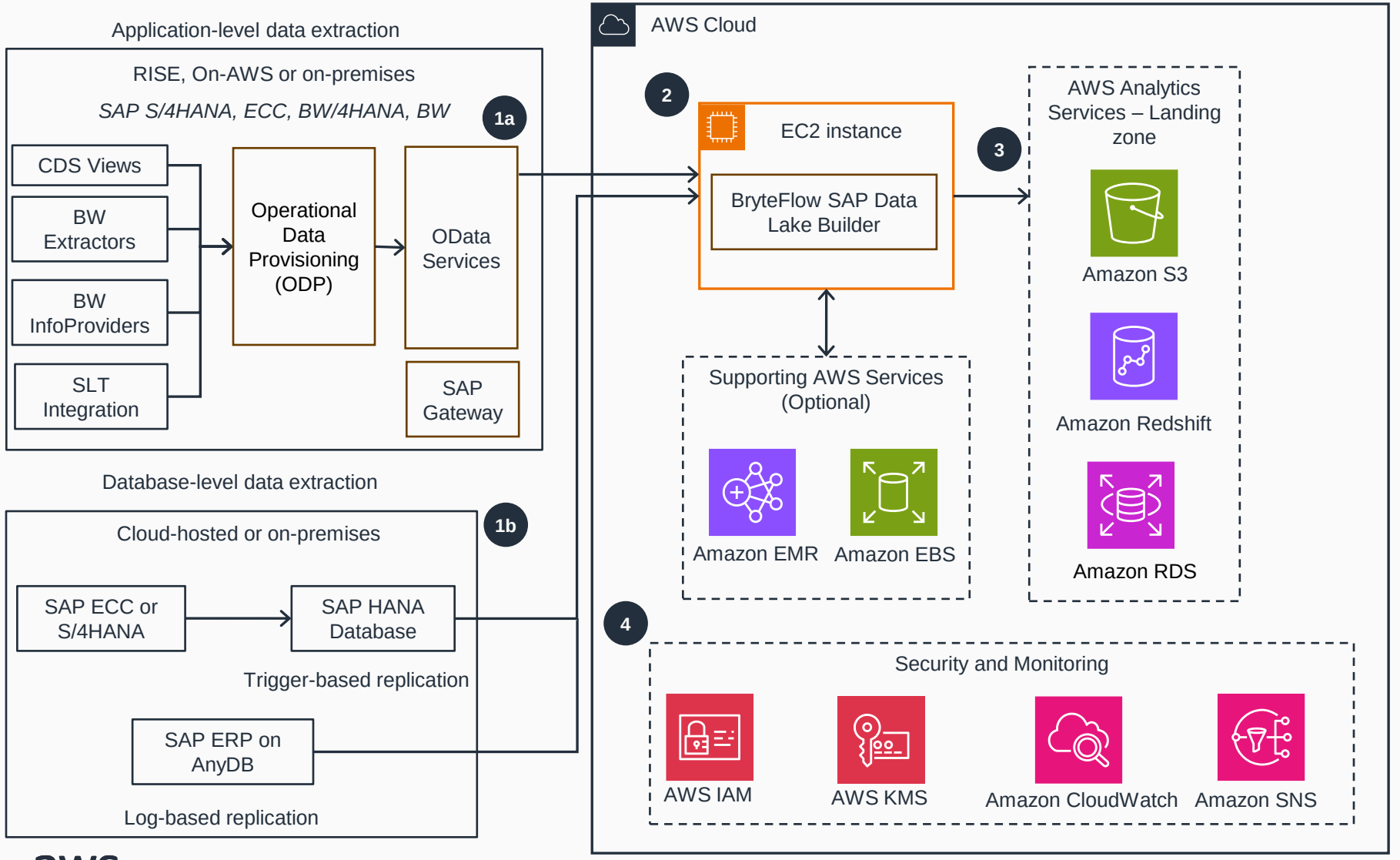
Guidance for SAP Data Integration and Management on AWS

B1. AWS Partner Solution BryteFlow Ingest

This architecture diagram shows how to ingest SAP data to AWS using the AWS Partner Solution BryteFlow SAP Data Lake Builder.



1a For Application-level data extraction, configure SAP OData Services based on CDS Views, BW Extractors, BW InfoProviders, or HANA information views for data extraction.

1b Database-level data extraction (requires SAP license that allows database access) uses a trigger-based (SAP HANA database) or log-based mechanism (Oracle, SQL, DB2) to replicate data.

2 AWS Partner Solution BryteFlow SAP Data Lake Builder provides application and database level SAP data extraction with change data capture to AWS Cloud.

BryteFlow SAP Data Lake Builder is available as pre-configured AMI on AWS Marketplace. Follow instructions to configure the AMI in the EC2 instance.

3 BryteFlow SAP Data Lake Builder software running on **Amazon EC2** instance ingests the captured initial and changed data and delivers to AWS Analytics Services.

Append and upserts to **Amazon S3, Amazon Redshift** and **Amazon RDS** are supported. **Amazon S3** upsert operations need additional Services (**Amazon EMR and Amazon EBS**). Data catalog and portioning of the schema is configured.

4 BryteFlow SAP Data Lake Builder uses **AWS IAM**, **AWS KMS**, **AWS CloudWatch**, and **Amazon SNS** for security, monitoring, and alerts.

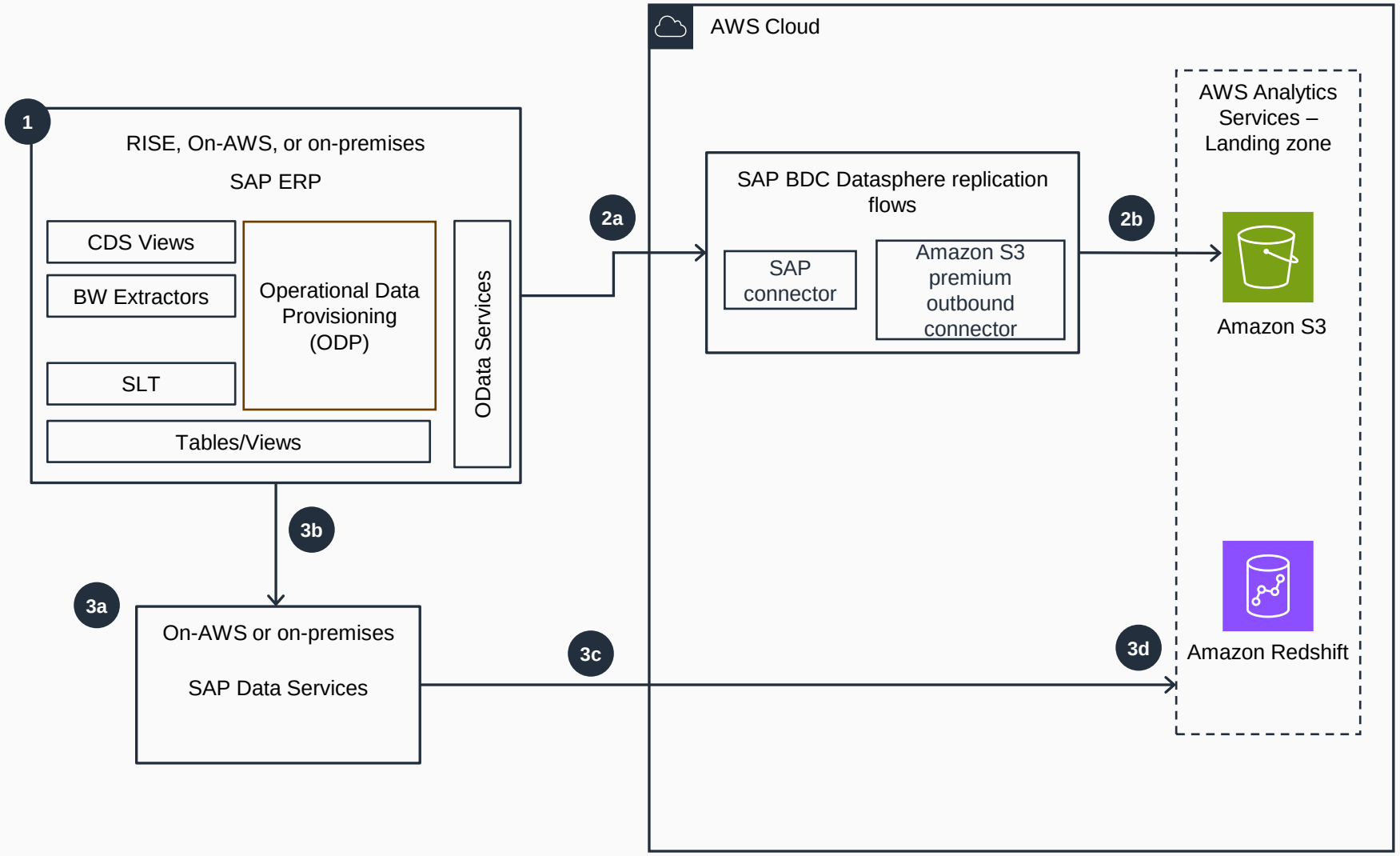
Reviewed for technical accuracy September 24, 2025

AWS Reference Architecture

Guidance for SAP Data Integration and Management on AWS

B2. Using SAP BDC Datasphere, Data Services

This architecture diagram shows how to ingest SAP data to AWS using SAP Datasphere or SAP Data Services.



1. Extract data from SAP ERP hosted in RISE, on AWS, or on-premises using:
   A. SAP Datasphere
   B. SAP Data Services

2a. SAP BDC Datasphere offers various connection types such as SAP ABAP Connections, SAP ECC Connections, and SAP S/4HANA Cloud Connections supporting RFC and ODP protocols. Refer to SAP Datasphre documentation to choose the most appropriate connectivity to extract SAP data.

2b. Using premium outbound integration for Amazon Simple Storage Connection, configure the SAP Datasphere replication flow to ingest data to **Amazon S3**.

3a. Install SAP Data Services on an **Amazon EC2** instance or on-premises.

3b. SAP Data Services offers various connections to extract data from SAP ECC data. Refer to SAP Data Services documentation to choose the most appropriate connectivity.

3c. SAP Data Services offers Amazon Redshift Datastore and Amazon S3 datastore to ingest data to AWS.

3d. SAP Data Services offers options for Amazon S3 file location protocol such as encryption type, compression type, batch size, number of threads, **Amazon S3** storage class, etc.

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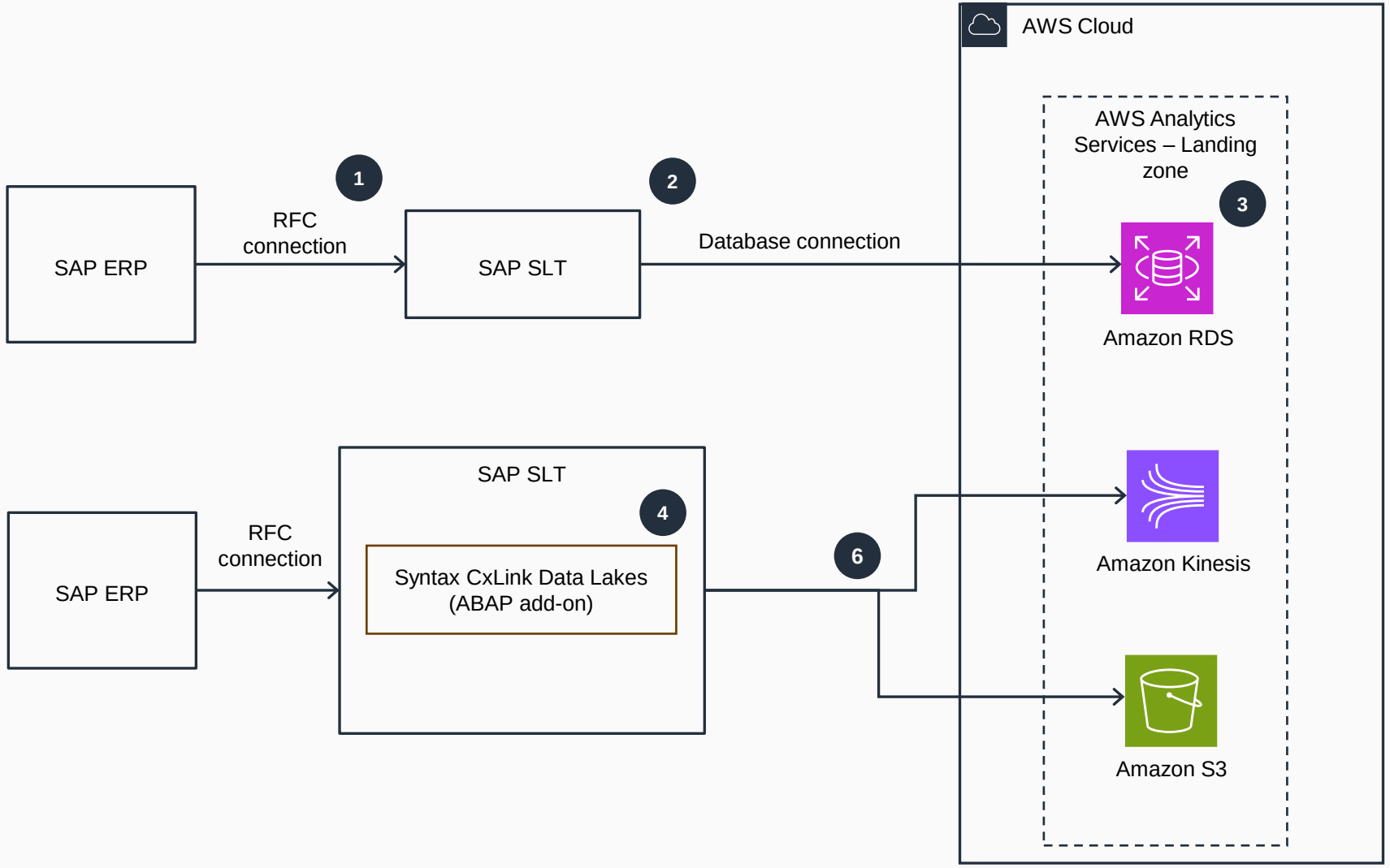
AWS Reference Architecture

Guidance for SAP Data Integration and Management on AWS

B3. Using SLT

This architecture diagram shows how to ingest SAP data to AWS using SAP SLT.



1. Configure RFC destination in SAP SLT to source SAP ERP system.
2. Configure SAP SLT database connection to the destination **Amazon RDS** server using host name, username and password. Configure the SAP SLT mass transfer ID to replicate tables (initial and incremental data) in real-time or scheduled frequency to **Amazon RDS**.
3. Perform insert, update, and delete operations to **Amazon RDS,** which can operate as a landing zone for subsequent data loads to **Amazon S3** or **Amazon Redshift**.
4. For data replication to **Amazon S3** or **Amazon Kinesis**, install an AWS Partner Solution ABAP add-on such as Syntax CxLink Data Lakes on the SAP SLT Server.
5. Syntax CxLink Data Lakes replicates data in real-time or scheduled frequencies to **Amazon S3** or **Amazon Kinesis**. Incremental data is appended to existing data.

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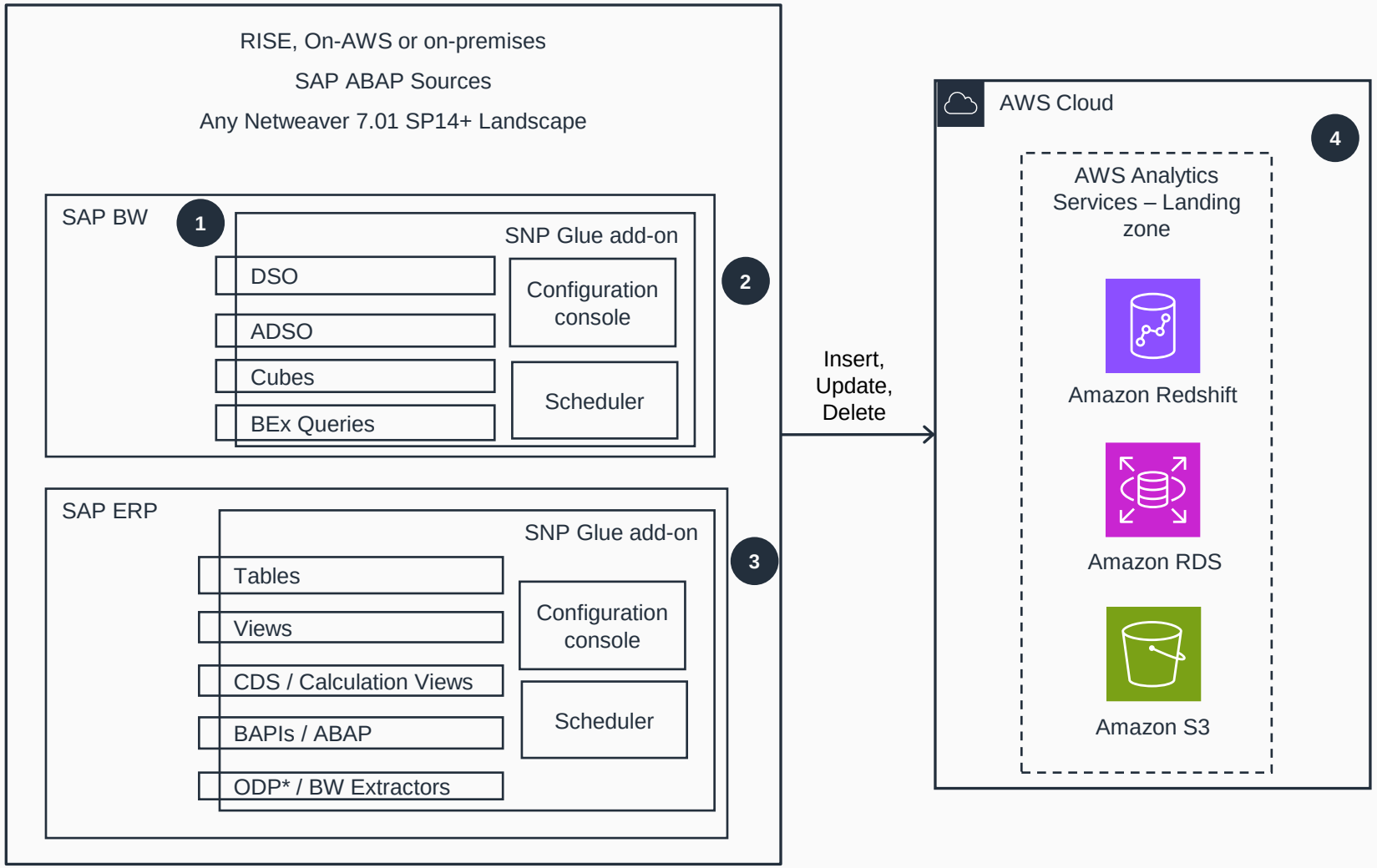
AWS Reference Architecture

Guidance for SAP Data Integration and Management on AWS

C. SNP GLUE, an SAP NetWeaver Add-On Solution by SNP

This architecture diagram shows how to use SAP NetWeaver add-on solution SNP Glue to extract data from SAP to AWS.



1. Install and configure SNP Glue ABAP add-on on a SAP ABAP-based source system (S/4HANA, ECC, CRM, BW, etc.), Netweaver 7.1 SP14 and higher.
2. SNP Glue configuration workbench allows selection of tables, modification of source and destination structures, data filtering, and addition of transformation rules.
3. SNP Glue scheduler allows creating flexible schedule and throttling SAP resources by limiting maximum number of background work processes.
4. SNP Glue captures initial and incremental data along with deletions and replicates to AWS services such as **Amazon S3** and **Amazon Redshift**.

Reviewed for technical accuracy September 24, 2025

AWS Reference Architecture