

CASE STUDY

Scalable & Secure Data Integration



1. PROJECT OVERVIEW

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CLIENT & CONTEXT

Our client was a large corporation operating across multiple industries, including industrial equipment, machinery, home appliances, architecture/exterior design, construction machinery, and energy. Due to the vast and diverse business scope, managing their extensive data assets was a significant challenge.

Luvina played an integral role in this project as a dedicated team member under the client's direction. Our responsibilities focused on **coding** and **UT/IT testing** to support their data management and system integration efforts.

RELIGION: Japan

INDUSTRY: Industrial Equipment, Construction, Energy

FOCUS AREA: Business management

DURATION: 8/2023 - 1/2026

SIZE: 5.5MM/month

SERVICES:

- System Investigation & Design
- Development & Implementation
- Comprehensive Testing (UT/IT)

TECHNOLOGY STACK: Data Spider ver 4.4, MySQL ver 8.0



PROJECT OVERVIEW

CHALLENGE

- Weak data integration between systems, lacking a unified linkage and storage mechanism.
- No centralized data management system, leading to uncontrolled data.
- High labor costs for data aggregation and modification.

SOLUTION

- **Enhanced Data Integration:** Implemented a Data Integration Platform (ETL/ELT) using SAP and AWS to establish seamless connectivity between systems.
- **Centralized Data Management:** Deployed a unified Data Lake/Data Warehouse using GCP to manage non-AWS data sources like GWS, ensuring comprehensive data governance.
- **Agile Resource Allocation:** Maintained a readily available team, swiftly adapting to evolving project requirements and personnel changes to ensure seamless execution.

PROJECT OVERVIEW

ACHIEVEMENT

Zero major technical challenges encountered, thanks to a well-structured training plan and strong team competency.

High-quality assurance compliance, adhering to industry best practices and quality standards to ensure robust and reliable software solutions.

On-time delivery with minimal delays, following the customer's WBS (Work Breakdown Structure). Any priority task changes were efficiently managed without significant schedule impact.

Data processing efficiency improved by

35%

Operational workload reduced by

30%

Data retrieval time reduced by

40%

Enabling faster decision-making.

Reduced IT maintenance costs by

25%

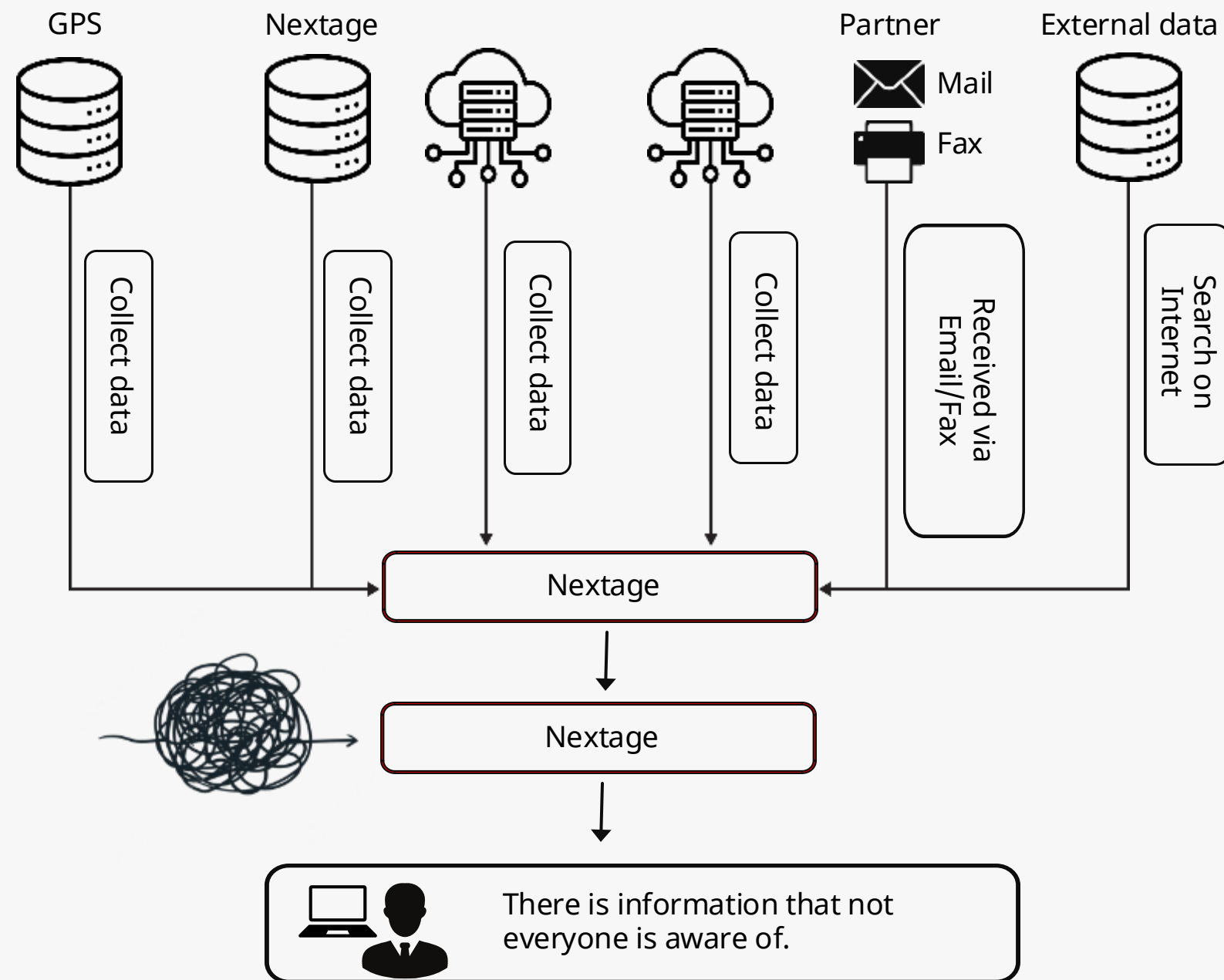


2. SOLUTION DETAILS

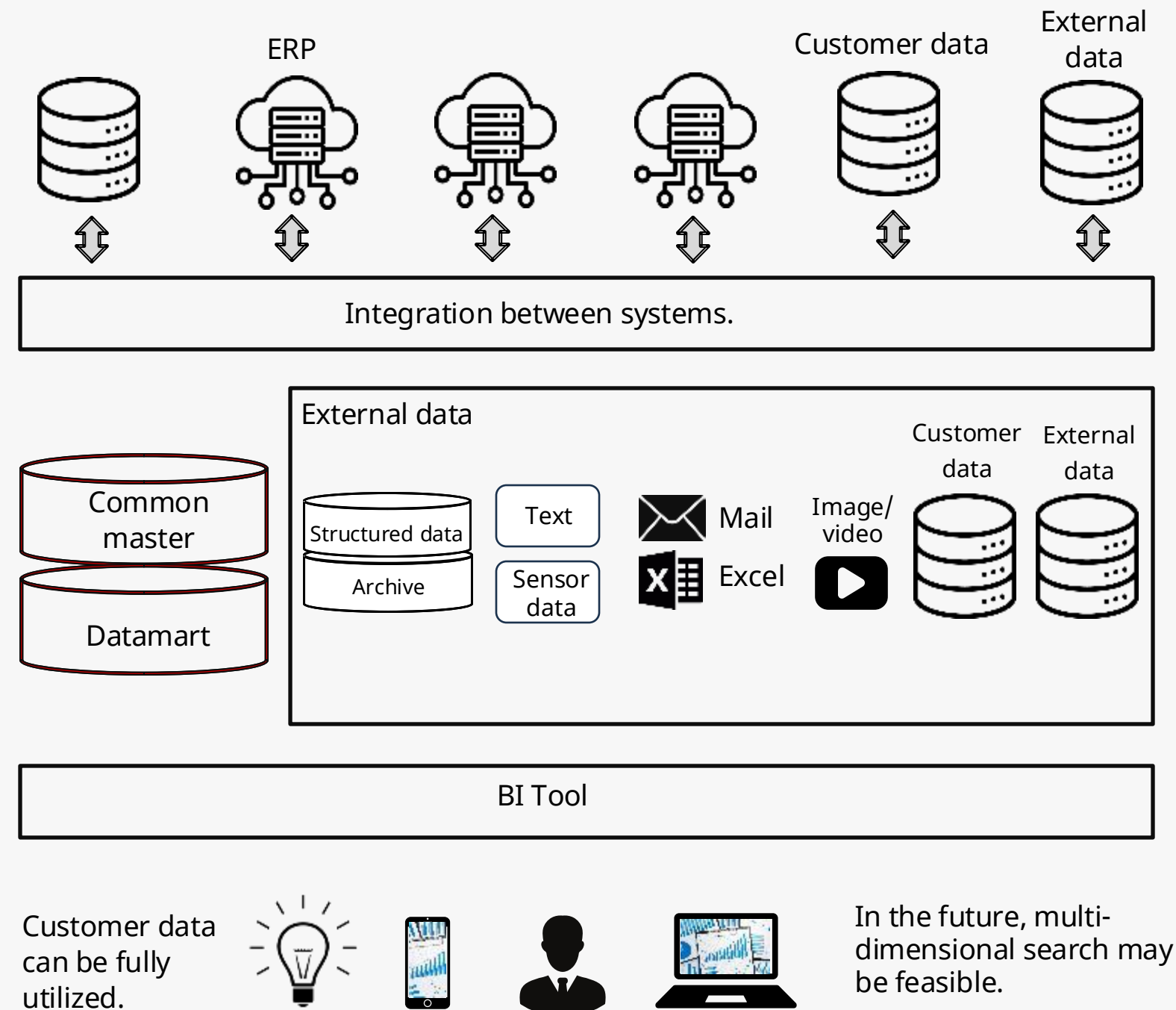
SOLUTION DETAILS - USER JOURNEY

BEFORE ➔ AFTER

Collect data from a complex system based on individual subjective understanding, then organize and aggregate the data to increase the number of analytical targets.



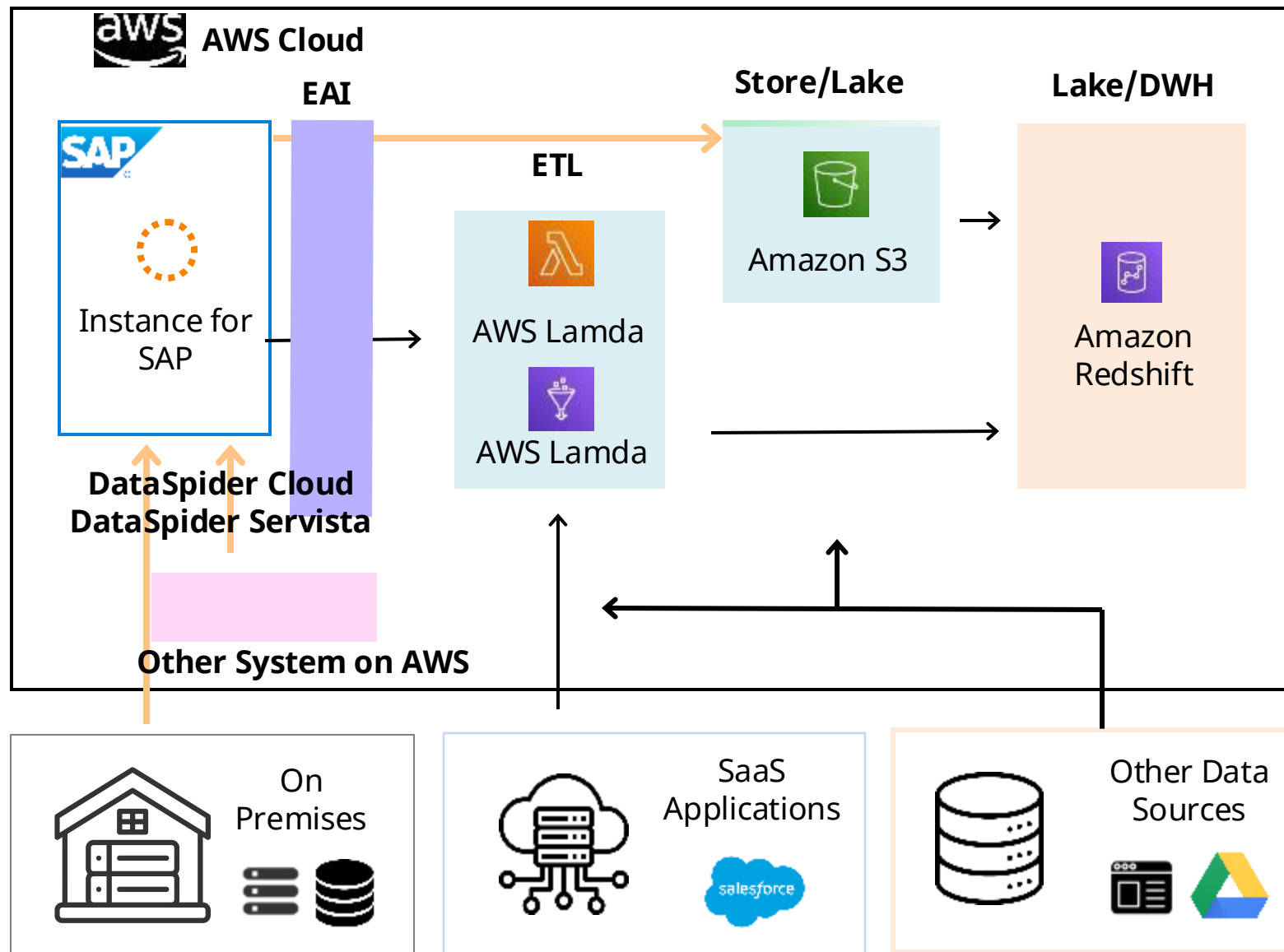
Retrieve and utilize linked, accumulated, and formatted data from the data lake.



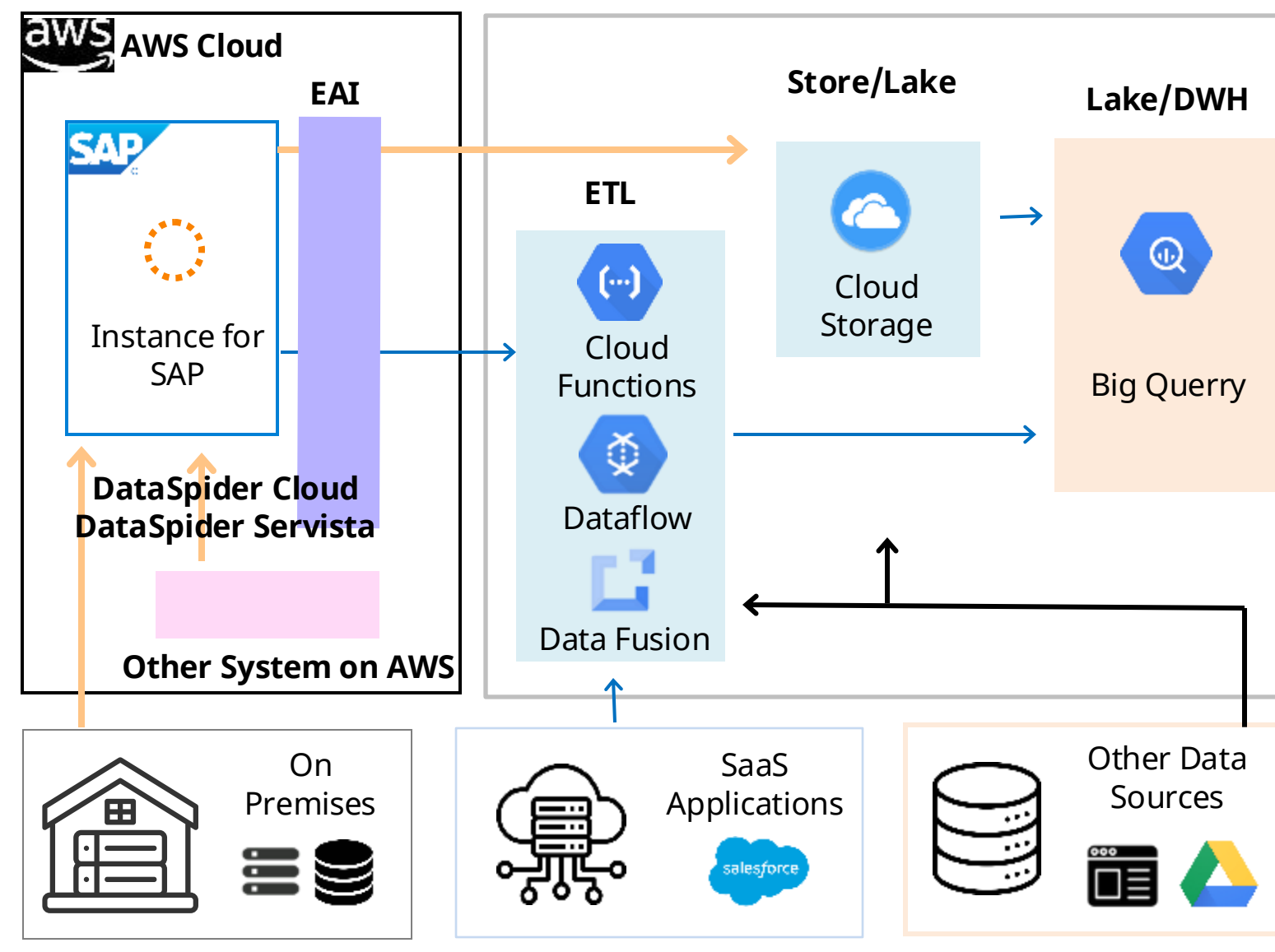
SOLUTION DETAILS - TECHNICAL DETAILS

Conceptual Network Diagram of the Customer's DX Data Platform (Example)

Single Cloud Platform (AWS)



Multi-Cloud Platform (AWS + GCP)



1. The **Data Integration Platform** primarily utilizes SAP on AWS.

2. The **Data Storage** and **Data Processing & Utilization Platforms**, including non-AWS data sources like GWS, will be built on GCP.



3. **EXTRA
POINTS**

EXTRA POINTS



Tech stack and project management

- **Maximizing Low-Code efficiency:** Mastering the tool, understanding its limitations, and preparing alternative solutions in advance to mitigate constraints.
- **Deep domain expertise:** Assigning team members to specialize in different business areas, ensuring tailored data processing approaches.
- **Innovative problem-solving:** Identifying tool limitations early and organizing brainstorming sessions to address complex processing logic.
- **Agile adaptation:** Always having contingency plans to respond promptly to changes.
- **Proactive project involvement:** As an integral part of the project, Luvina actively updated progress, shared challenges, and took on additional responsibilities to ensure project success.



Quality assurance

- People:** Team members demonstrated high levels of responsibility and commitment.
- Regular, structured training ensured continuous skill enhancement.
 - Strong technical expertise met project requirements effectively.
- Tools & Processes:**
- Established clear quality standards for each phase of development.
 - Implemented rigorous review procedures using checklists to maintain consistency and accuracy.

EXTRA POINTS

STRICT SECURITY REQUIREMENTS

The project adhered to **ISO 27001** standards, undergoing annual audits conducted by certification bodies. Key security control measures included:

01 Strict Security Regulations for **Project Members**

- Work was conducted exclusively on designated project devices.
- Access to network resources was tightly controlled, with permissions managed and strictly confidential.
- Only pre-approved software was allowed for installation and use.
- Any connection to the client's environment required prior registration with the project manager.
- All accounts used in the client environment were registered with Luvina's email, strictly prohibiting personal email usage.

02 Strict Security Regulations for **Offboarded Members**

- All project-related accounts, files, and documents were deleted upon exit.
- Personal computers were reset before leaving the project.
- Client stakeholders were promptly updated on personnel changes.



Chart our course to **success,** **together.**


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