

WHITE PAPER

Haneya®: Data Migration Validation (DMV)

Accelerating SAP Migrations with Automated Data Migration & Validation

Executive Summary

SAP S/4HANA transformation programs require accurate, scalable, and low-risk migration approaches to ensure business continuity during ECC to S/4HANA conversions. One of the critical challenges in Brownfield migration projects is validating transactional and master data consistency while ongoing business operations continue.

This document describes a Data Migration Validation (DMV) framework designed for SAP Brownfield migrations. The framework supports migration validation activities between SAP ECC and SAP S/4HANA systems by automating Master and Transactional data Migration, Reconciliation, Audit reporting, and Errors remediation via AI agents.

The solution demonstrates validation capabilities by each Data Object across core business processes* such as:

- Business Partner (BP) and Master Data Processes
- Quote-to-Cash (O2C)
- Stock Transport Orders (STO)
- Intercompany Process
- Record to Report (RTR) Process
- Source to Pay Process (STP)
- Vistex – Rebates and Settlements
- Service / Maintenance Mgt. Process
- Other processes

*Comprehensive Scope of Data Objects coverage is described in the DMV Scope Document

The focus of this document is the O2C validation flow using Delta Quotation, Delta Sales Order, Outbound Delivery, and Billing document validation scenarios.

1. Introduction

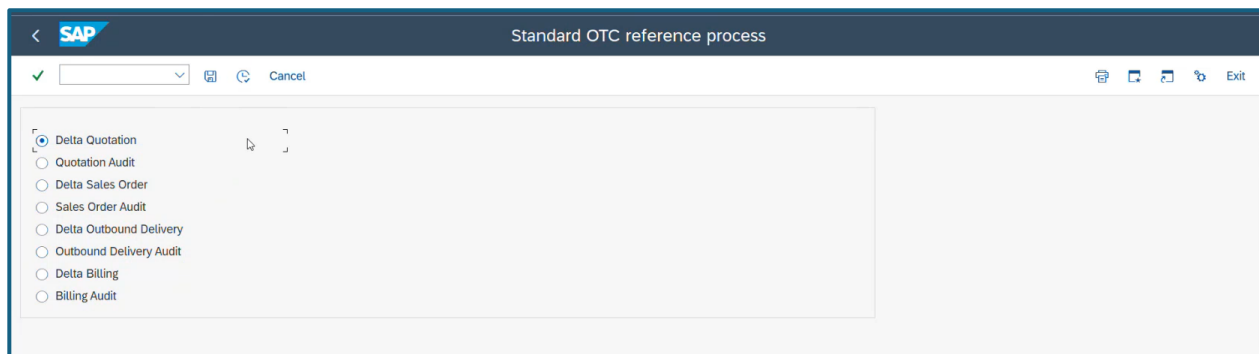
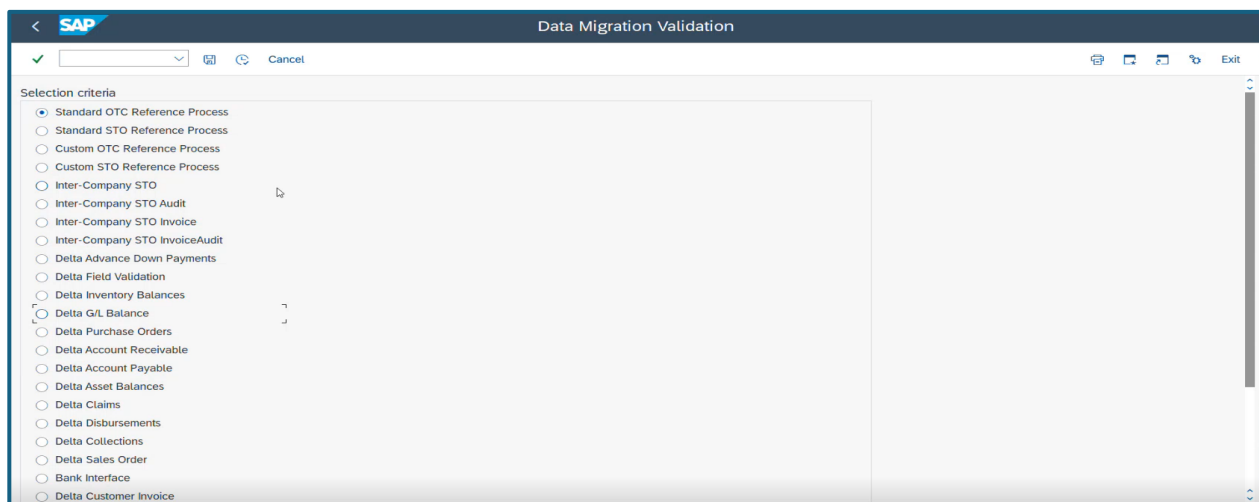
SAP enterprises migrating from ECC to SAP S/4HANA often adopt a brownfield migration strategy to preserve existing business processes, customizations, and operational continuity.

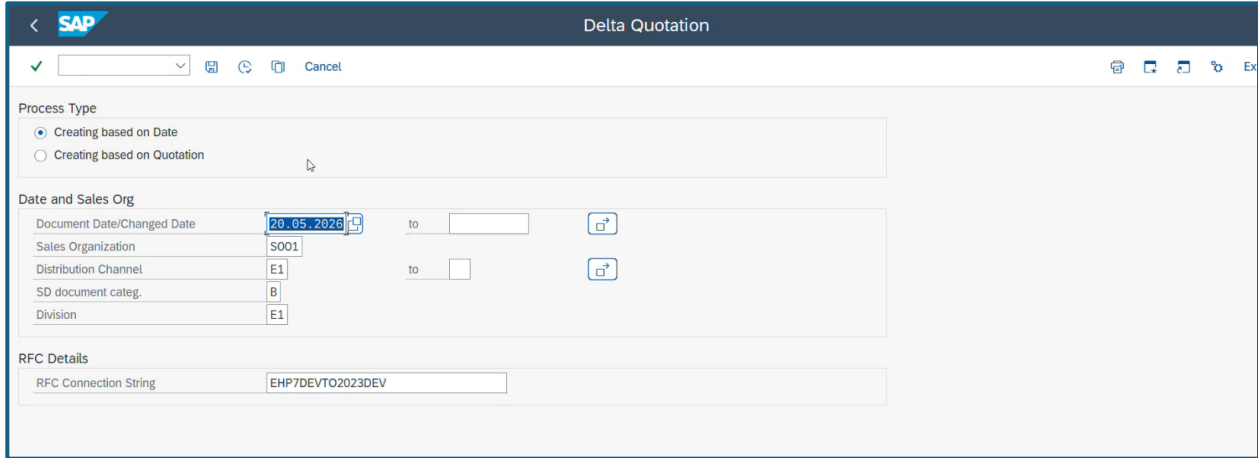
During such migrations, validating master and transactional data consistency between source and target systems becomes critical. The DMV framework provides automated validation capabilities that:

- Extract master and transactional data from SAP ECC to SAP S/4 HANA
- Transform, Replicate, Load, and Validate documents in SAP S/4HANA
- Compare and audit at Key Fields level by each object (Key fields are configurable)
- Detect mismatches and failures @Key Fields between ECC and S/4 HANA
- Enable automated error remediation through AI integration
- Provide audit and reconciliation dashboards by each object

The framework is designed to reduce manual validation efforts and improve migration quality and reliability immensely.

2. Migration with DMV





The screenshot shows the SAP Delta Quotation configuration interface. At the top, there's a title bar with the SAP logo and the text 'Delta Quotation'. Below this is a toolbar with a checkmark, a dropdown menu, and buttons for 'Cancel' and 'Ex'. The main area is divided into three sections: 'Process Type', 'Date and Sales Org', and 'RFC Details'. In the 'Process Type' section, 'Creating based on Date' is selected. The 'Date and Sales Org' section contains fields for 'Document Date/Changed Date' (set to 20.05.2023), 'Sales Organization' (S001), 'Distribution Channel' (E1), 'SD document categ.' (B), and 'Division' (E1). The 'RFC Details' section has a field for 'RFC Connection String' (EHP7DEVTO2023DEV).

In a brownfield migration scenario, the DMV framework validates business continuity between SAP ECC and SAP S/4HANA during the migration lifecycle.

The framework validates:

- Existing Master and Transactional data (Full Loads)
- Incremental (delta) business documents
- Financial postings
- Logistics execution documents
- Business partner synchronization

The solution fetches data from SAP ECC using RFC destination and validates document creation and consistency in SAP S/4HANA as Shown above Pictures.

3. O2C Validation Process

The Order-to-Cash (O2C) validation process includes:

1. Delta Quotation Validation
2. Delta Sales Order Validation
3. Delta Outbound Delivery Validation
4. Delta Billing Validation

Each process validates successful document replication and consistency between ECC and S/4HANA systems.

4. Delta Quotation Validation

Objective

SA - Quotations		
Sales Document Type	QT	
Date :	20/05/2026 To 00/00/0000	
Sales Organization	SO01	
Distribution Channel	E1 To	
Division	E1	
ECC Quotation Count	20	

ECC Quotation No. S/4 Hana Quotation N Status		
0020000082	0020000082	Quotation 0020000082 Already Processed
0025000107	0025000107	Quotation 0025000107 Already Processed
0025000108	0025000108	Quotation Created Successfully :0025000108
0025000109	0025000109	Quotation Created Successfully :0025000109
0025000110	0025000110	Quotation Created Successfully :0025000110
0025000111	0025000111	Quotation Created Successfully :0025000111
0025000112	0025000112	Quotation Created Successfully :0025000112
0025000113	0025000113	Quotation Created Successfully :0025000113
0025000114	0025000114	Quotation Created Successfully :0025000114
0025000115	0025000115	Quotation Created Successfully :0025000115
0025000116	0025000116	Quotation Created Successfully :0025000116
0025000117	0025000117	Quotation Created Successfully :0025000117
0025000118	0025000118	Quotation Created Successfully :0025000118
0025000119	0025000119	Quotation Created Successfully :0025000119
0025000121	0025000121	Quotation Created Successfully :0025000121

Validate quotation document migration from SAP ECC to SAP S/4HANA.

Process Flow

1. Fetch Quotation data from SAP ECC using RFC connection
2. Create corresponding quotation documents in SAP S/4HANA
3. Validate document consistency
4. Audit the Key Fields and Identify the differences
5. Diagnose and resolve the field level differences btw ECC and S/4 HANA systems
6. Update processing dashboards
7. Generate audit reports

Key Features

- Automated quotation extraction
- Delta-based processing
- Duplicate prevention
- Processing status monitoring
- Real-time validation dashboards

Validation Dashboard

The dashboard provides:

- Processed document counts
- Newly validated quotations

- Historical validation records
- Document combination tracking
- Validation status indicators

Audit and Error Management

The quotation audit report identifies:

- Value mismatches
- Key field differences
- Missing fields
- Document inconsistencies
- Replication failures

Traffic light indicators are used for quick issue identification:

- Green – Successfully validated
- Yellow – Warning or partial mismatch
- Red – Validation error

5.AI/ RPABased Error Resolution

Exception	Serial Number	Select	ECC Quotation Number	Net Value in Document	Currency	Condition Type	Condition Value	Currency Key	S/4 HANA Quotation No.	Net Value in Document	Currency	Condition Value	Currency Key	S
●○○	1	☐	0025000107	2.176,00			0,00		0025000107	2.476,00	KF00	76,00	IT	
○○●	2	☐	0025000108	1.526,00			0,00		0025000108	1.746,50	SKTO	0,00		
●○○	3	☐	0025000109	1.416,00			0,00		0025000109	1.617,00	PR00	1.560,00	IT	
●○○	4	☐	0025000110	1.628,80			0,00		0025000110	1.868,00	VPRS	1.600,00	IT	
●○○	5	☐	0025000111	2.242,00			0,00		0025000111	2.560,25	VPRS	1.900,00	IT	
●○○	6	☐	0025000112	10.256,40			0,00		0025000112	11.461,50	KF00	85,50	IT	
○○●	7	☐	0025000113	2.342,60			0,00		0025000113	2.664,75	SKTO	0,00		
●○○	8	☐	0025000114	1.414,00			0,00		0025000114	1.607,50	VPRS	1.000,00	IT	
●○○	9	☐	0025000115	1.228,70			0,00		0025000115	1.405,25	KF00	52,25	IT	
●○○	10	☐	0025000116	2.566,50			0,00		0025000116	2.906,25	VPRS	1.500,00	IT	
○○●	11	☐	0025000117	1.696,80			0,00		0025000117	1.929,00	SKTO	0,00		
●○○	12	☐	0025000118	2.236,00			0,00		0025000118	2.531,75	PR00	2.470,00	IT	
●○○	13	☐	0025000119	2.291,20			0,00		0025000119	2.604,00	PR00	2.528,00	IT	
○○●	14	☐	0025000121	2.132,80			0,00		0025000121	2.428,00	SKTO	0,00		
●○○	15	☐	0025000122	1.787,20			0,00		0025000122	2.044,00	KF00	76,00	IT	
○○●	16	☐	0025000123	2.737,60			0,00		0025000123	3.100,00	SKTO	0,00		
○○●	17	☐	0025000124	2.312,00			0,00		0025000124	2.630,75	SKTO	0,00		
●○○	18	☐	0025000126	1.585,10			0,00		0025000126	1.801,25	KF00	52,25	IT	
●○○	19	☐	0025000127	3.702,40			0,00		0025000127	4.172,00	VPRS	1.600,00	IT	

The DMV framework integrates with RPA / AI automation bots for automated issue and error remediation.

Capabilities

- Automated correction of validation mismatches

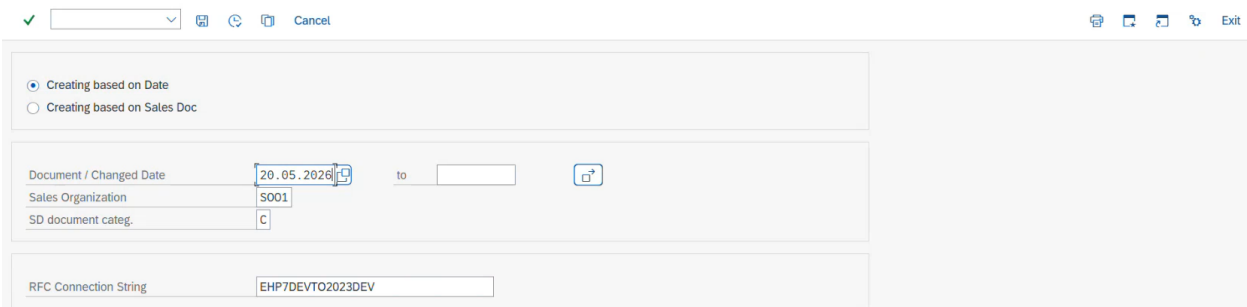
- Reprocessing failed records
- Intelligent retry mechanisms
- Bulk error handling

Users can select failed records directly from audit reports and trigger automated remediation workflows.

Once errors are resolved, document statuses are updated automatically.

6. Delta Sales Order Validation

Objective



The screenshot shows a web application interface for Delta Sales Order Validation. At the top, there is a green checkmark icon, a dropdown menu, and buttons for 'Cancel' and 'Exit'. Below this, there are two radio buttons: 'Creating based on Date' (selected) and 'Creating based on Sales Doc'. Underneath, there are three input fields: 'Document / Changed Date' with the value '20.05.2026', 'Sales Organization' with the value 'S001', and 'SD document categ.' with the value 'C'. To the right of these fields is a 'to' label and a small square icon. At the bottom, there is a text field for 'RFC Connection String' with the value 'EHP7DEVTO2023DEV'.

Validate sales order replication and consistency between ECC and SAP S/4HANA.

Process Flow

1. Extract sales orders from SAP ECC
2. Replicate sales orders in S/4HANA
3. Validate transactional consistency
4. Update validation dashboards
5. Generate audit reports

Validation Features

- Delta document processing
- Transaction integrity validation
- Duplicate control
- Processing history tracking
- Validation status monitoring

Previously processed documents remain protected from modification to maintain audit integrity.

Audit Reporting

The sales order audit report supports:

- Error detection
 - Validation traceability
 - Automated reconciliation
 - RPA-driven issue correction
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7. Technical Architecture

Source System

- SAP ECC

Target System

- SAP S/4HANA

Integration Layer

- RFC destination-based connectivity
- Automated extraction services
- Validation orchestration engine

Automation Components

- RPA/automation bots
 - Error remediation workflows
 - Audit services
 - Dashboard services
-

8. Business Benefits

The DMV framework delivers several advantages during SAP transformation programs.

Reduced Migration Risk

- Early identification of inconsistencies
- Automated reconciliation

- Reduced manual validation effort

Improved Business Continuity

- Continuous validation support
- Delta-based transaction processing
- Operational consistency assurance

Faster Issue Resolution

- AI / RPA-assisted remediation
- Automated retry mechanisms
- Centralized audit reporting

Enhanced Visibility

- Real-time dashboards
- Validation traceability
- Migration progress monitoring

Scalable Validation Framework

- Supports large transaction volumes
- Reusable across migration waves
- Extendable for additional business processes

9. Conclusion

Data Migration Validation (DMV) plays a critical role in ensuring reliable and controlled SAP S/4HANA brownfield migrations, transformations and audited to ensure 100% Data Quality.

By combining automated transaction validation, reconciliation reporting, RPA-driven remediation, and real-time monitoring, the DMV framework helps organizations reduce migration risk while maintaining operational continuity.

The demonstrated O2C validation process showcases how delta transaction validation can ensure consistency between SAP ECC and SAP S/4HANA systems throughout the migration lifecycle.

This framework provides enterprises with a scalable and audit-ready approach for validating business-critical transactions during SAP transformation initiatives.