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Accelerating Enterprise Data Migration With Palantir AIP

A New Paradigm For Operationalization

Executive Summary

Enterprise data migration, particularly from legacy SAP systems to S/4HANA, is often one of the most challenging, expensive, and time-consuming initiatives organizations undertake. Coordinating efforts amongst separated internal business and technology teams plus external consultant teams frequently results in siloed efforts that are unable to manage (much less improve or verify) the transition and advancement of data and business processes.

Palantir AIP introduces a fundamentally different approach: maintaining complete contextual awareness across the entire migration lifecycle while deploying AI-accelerated workflows to match SME expectations at each phase. This allows complex enterprises to complete their migrations, retire legacy systems, and supercharge new workflows in months not years, for a fraction of the price.

The Challenge of Modern Data Migration

Enterprise data migrations and upgrades often extend far beyond simple data transfers. Organizations must extract data from legacy systems, interpret custom code and business logic, transform values to meet new standards, consolidate or remap business units across multiple sources, and validate the results against stringent compliance requirements.

Traditional enterprises and system integrators segment these responsibilities across different teams (eg, extraction specialists, transformation engineers, validation analysts, and business managers), each operating with their own tools, context, and limited visibility into adjacent processes. When validation fails, organizations enter data archaeology mode and spend weeks of work to trace errors across siloed teams, by which point some individual team process has already changed, and the cycle restarts in an extended game of cat-and-mouse.

By the time root causes are identified, source extractions may have changed, or consolidation mappings may have been updated and the entire validation and troubleshooting process must restart. Getting stuck in this validation loop often costs organizations years in costs and continued reliance on external system integrators, frequently consuming budgets and organizational patience.

The Limitations of Point-Solution AI

The emergence of artificial intelligence has prompted many system integrators to incorporate AI capabilities into their migration offerings. However, these implementations typically deploy AI at the team level to automate specific tasks, reduce headcount requirements, or replace individual tools.

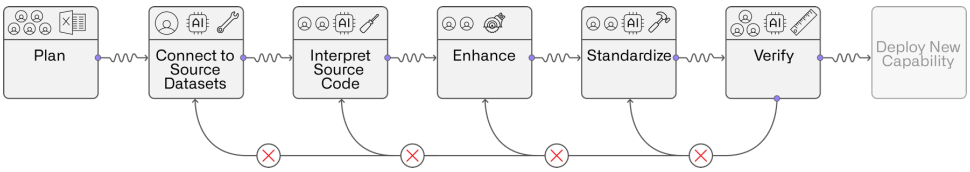
While such approaches deliver incremental efficiency gains, they fail to address the core structural problem: separated teams still produce separated outputs that must be manually reconciled at validation checkpoints. The linear process is the cumulative sum of each team's challenges in serial. For example, an AI that accelerates code interpretation provides limited value if the interpreted code cannot be automatically validated against data remapped by the new business requirements in real-time.

The result is linear improvement rather than transformational change. Organizations move faster through each phase but remain trapped in the same sequential, error-prone process that has plagued enterprise migrations for decades: a faster hamster wheel is still a hamster wheel.

FIGURE 01/

Traditional Migration Challenges

Even with AI, distinct teams and disconnected workflows cause delays and make verification challenging. Enterprises suffer from serial delays.

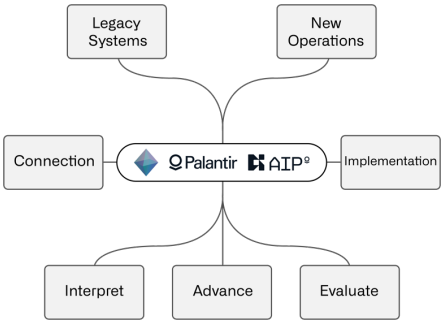


Palantir AIP's Contextual Architecture

With the ability to maintain comprehensive context across the entire migration lifecycle, and with scoped control to implement end-to-end workflows, Palantir AIP enables a step change in migration speed and accuracy. Drawing an analogy to the octopus (an organism whose arms each possess independent neural processing while remaining coordinated by a central brain), Palantir AIP deploys specialized AI capabilities at each stage of migration (its arms) while maintaining unified awareness of legacy system structures, target requirements, business rules, and compliance standards in its central "brain".

FIGURE 02/

'Octopus' Diagram



Palantir AIP's Contextual Architecture (cont.)

Building on this architecture, Palantir AIP keeps every stage of migration connected, allowing the system to respond instantly to issues as they arise. This means that when a validation error occurs at one stage, the Palantir AIP "brain" immediately identifies where the error occurred and can respond by correcting code, building an SME interface, or highlighting a missing dataset.

More importantly, corrections propagate rapidly through the pipeline, so enterprises get feedback on their improvements within minutes, not weeks. For instance, "if we remap legacy standards to the new standards, what effect will changing our product material types also have on final upload validation?" can be answered today, not "after we've run again in a couple weeks".

The practical impact is dramatic: migration plans that typically require 6 months and cost above $6M from traditional consultancies can be developed in 60 seconds in Palantir AIP, migration execution can begin on Day 1, and complete data migration and legacy retirement is achieved in a fraction of the time.

Intelligent Data Understanding and Migrations

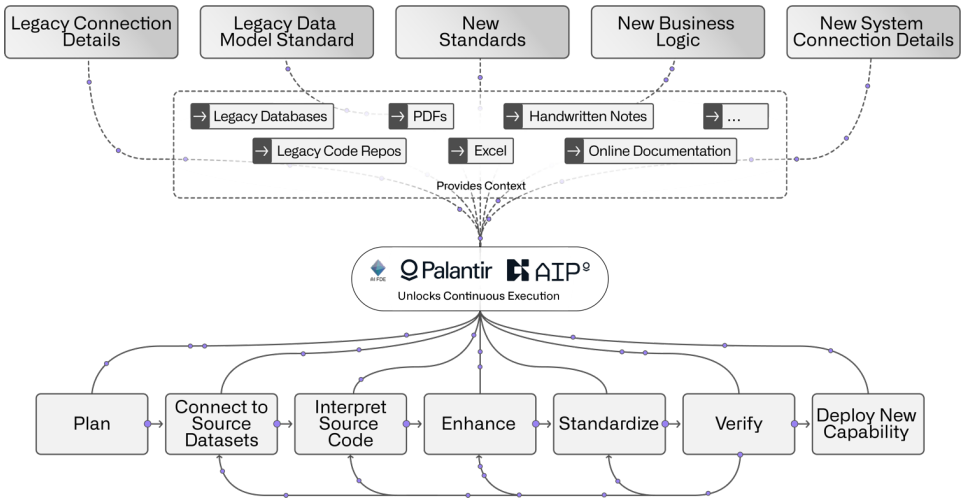
The migration process begins with data understanding: a phase traditionally requiring extensive manual documentation review, interviews with subject matter experts, and interpreting legacy system logic. Palantir AIP accelerates this phase by ingesting multiple data sources simultaneously: data dictionaries, legacy documentation (often stored in PDFs or incomplete data dictionaries), business requirements captured in spreadsheets, and compliance frameworks often stored in lengthy documents and spreadsheets.

Once this baseline is understood (often within seconds), Palantir AIP begins to query source databases directly, identifies table relationships and key matching columns, and constructs comprehensive data models automatically. Following connection, Palantir AIP can deploy AI-powered processes to map legacy values to new standards, construct transformation logic for hierarchy and organizational changes, translate code or foreign languages, and prepare data for validated uploads to new systems.

FIGURE 03/

Accelerated Migration with Palantir AIP

Palantir AIP and AI FDE automatically examines source databases, identifies how data connects, and handles the technical heavy lifting—translating formats, updating hierarchies, and preparing everything for seamless migration to new systems.



Continuous Validation and Continuous Improvement Cycles

Perhaps the most significant advantage of Palantir AIP's architecture emerges in the validation phase. Traditional migrations treat validation as a gate at the end of a linear process: a binary checkpoint that either passes or fails. Palantir AIP reconceptualizes validation as a continuous feedback mechanism integrated throughout the migration lifecycle.

As data flows through transformation pipelines, validation metrics update continuously. When issues arise, for instance records lacking appropriate matches, columns requiring subject matter expert review, or compliance standards not yet met, then the system not only identifies the specific problems but enables SMEs to describe the fix in plain language, deploying AI engineers to automatically propagate the correction across all arms of the system.

This creates a continuous improvement cycle: identify issue, understand root cause, implement correction, observe validation improvement, repeat. Every change is controllable and fully documented and auditable as well: reasoning, data lineage, transformation logic, and validation results update automatically rather than requiring months of manual effort from system integrators.

Beyond Migration: Operational Intelligence

While migration represents the immediate use case, Palantir AIP's contextual architecture delivers value that extends far beyond the migration event itself. Organizations can build applications that leverage both legacy and target systems simultaneously, enabling business continuity during extended migration periods. For example, an application for processing customer returns can be built mid-stream, pulling customer data from the legacy system, augmenting with intelligence from other integrated data systems, and then writing validated transactions to S/4HANA: all coordinated through Palantir's unified data layer (Ontology).

This capability transforms migration from a disruptive event into a steady pace of constant improvement, with organizations capturing value from new systems before legacy decommissioning completes. The same contextual awareness that accelerates migration enables ongoing operational intelligence: real-time visibility into business metrics, AI-driven recommendations for process optimization, and the ability to model the downstream impact of decisions before they are executed.

SMEs are empowered to discover and act on new logic, experiment with transformation rules, and confirm downstream effects and understand the impact even before execution.

Deployment Flexibility and AI Integration

Palantir AIP provides multiple deployment modalities for AI capabilities, ensuring organizations can apply intelligence where it delivers maximum value. Pipeline-level AI enables automated translation, entity matching, and data enrichment directly within ETL workflows, eliminating the traditional dependency on specialized integration teams.

Function-level AI supports subject matter expert workflows, allowing business users to define transformation rules through natural language interfaces while maintaining technical rigor in execution. Interpretation AI extracts structured information from unstructured sources: for example, identifying engineering components from 3D diagrams, parsing compliance requirements from regulatory PDFs, or translating legacy documentation into actionable data models. Agent-level AI provides conversational interfaces for complex analytical queries, enabling decision-makers to ask questions like "What is the most important action I should take to increase production?" and receive specific, actionable recommendations grounded in real-time data.

This flexibility ensures that AI augments human expertise at each stage rather than replacing it, with appropriate levels of automation applied based on task complexity and risk tolerance. For example, with Palantir AIP a procurement lead types "for New London products, swap overseas suppliers for the highest-volume domestic alternative before S4 upload." The pipeline re-executes. Validation metrics update. No ticket filed, no sprint scheduled, no consultant called.

This layering of AI capabilities distributed throughout the process and synced with a coordinated AI agent that maintains context across the entire effort, is the only way to escape the slow linear process of traditional migrations: even a 10x increase in linear efforts cannot match the exponential increase in speed from Palantir AIP.

IMPACT

99.8%

Validation accuracy exceeded 96% within hours of starting a complex data migration and modernization with Palantir AIP, reaching 99.8% within two weeks.

~~6 months~~ → 60 seconds

Migration plans that typically require 6 months of engagement and sometimes cost in excess of $6M from traditional consultancies can be developed in 60 seconds with Palantir AIP, and execution begins immediately after.

Conclusion: A New Standard for Enterprise Transformation

The enterprise data migration challenge has persisted not because organizations lack technical capability, but because traditional architectures fragment context across teams, tools, and time. Palantir AIP addresses this fundamental limitation through an architecture that maintains comprehensive awareness across the entire migration lifecycle while deploying specialized AI capabilities at every critical juncture to accelerate SMEs.

The results speak for themselves: migration timelines compressed from years to weeks, validation accuracy exceeding 96% within hours of starting, and complete auditability veritably generated instantly rather than manually constructed over months.

For organizations facing SAP modernization mandates, legacy system consolidation requirements, or digital transformation initiatives, Palantir AIP represents not merely an incremental improvement but a fundamentally new approach to enterprise data operationalization. The octopus metaphor proves apt: independent arms executing specialized tasks, coordinated by unified intelligence, achieving outcomes impossible through siloed efforts alone.

In an era where competitive advantage increasingly depends on the speed and accuracy of data-driven decisions, Palantir AIP transforms migration from an organizational burden into a strategic accelerator.

FIGURE 04/

Migrations with Palantir AIP: **Two Weeks**

Palantir AIP powers rapid migration in minutes, not months, transforming the traditional enterprise approach.