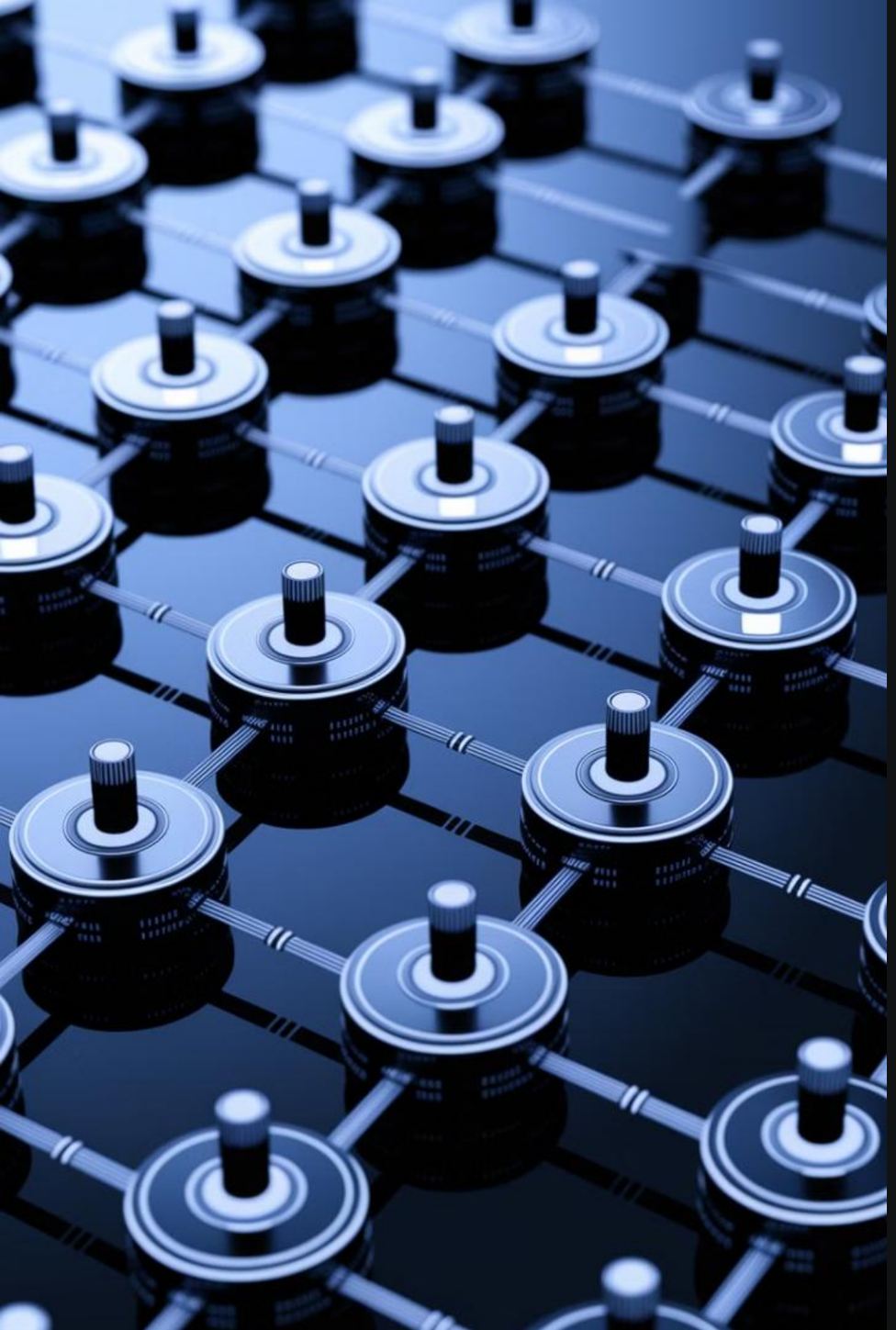
Clean Core: Integration Dimension

Throughout this presentation, we'll explore what integration means in a clean core context, examine key principles for clean integrations, and look at a real-world application that demonstrates these concepts in action.

por Mayko Silva



Understanding Integration in Clean Core

Integration in a clean core context refers to how your SAP systems communicate with each other and with other applications. It's the nervous system of your business technology landscape, connecting various components and enabling them to work together seamlessly.

Just as your nervous system coordinates functions throughout your body, integrations coordinate processes across your business systems, ensuring information flows properly and operations run smoothly.

System Communication

Enables SAP systems to exchange information with other applications

Process Coordination

Ensures business processes span across systems without disruption

Technical Foundation

Forms the underlying structure that supports business operations

Key Aspects of Clean Integrations

When we talk about clean integrations, we're focusing on several critical aspects that ensure your SAP ecosystem functions optimally. Business continuity stands at the forefront of these considerations.

Business continuity ensures your business processes flow smoothly across different systems without interruptions or bottlenecks. This seamless operation is essential for maintaining operational efficiency and meeting business objectives.

Business Continuity

Ensures business processes flow smoothly across different systems without interruptions, maintaining operational efficiency even during changes or updates.

Process Integrity

Maintains the integrity of business processes as they span multiple systems, preventing fragmentation or breakdown of critical operations.

System Reliability

Creates a reliable foundation that supports consistent business operations regardless of underlying system changes or updates.

The Importance of Data Consistency

Data consistency is a crucial element of clean integrations. When data varies across systems, it creates significant operational challenges and can lead to poor business decisions based on inaccurate information.

Imagine your inventory system showing one number while your sales system displays another. This discrepancy can result in overselling, inventory shortages, or excess stock - all of which impact customer satisfaction and business performance.

Single Source of Truth

Establishes authoritative data sources that other systems reference, reducing contradictions.

Synchronized Updates

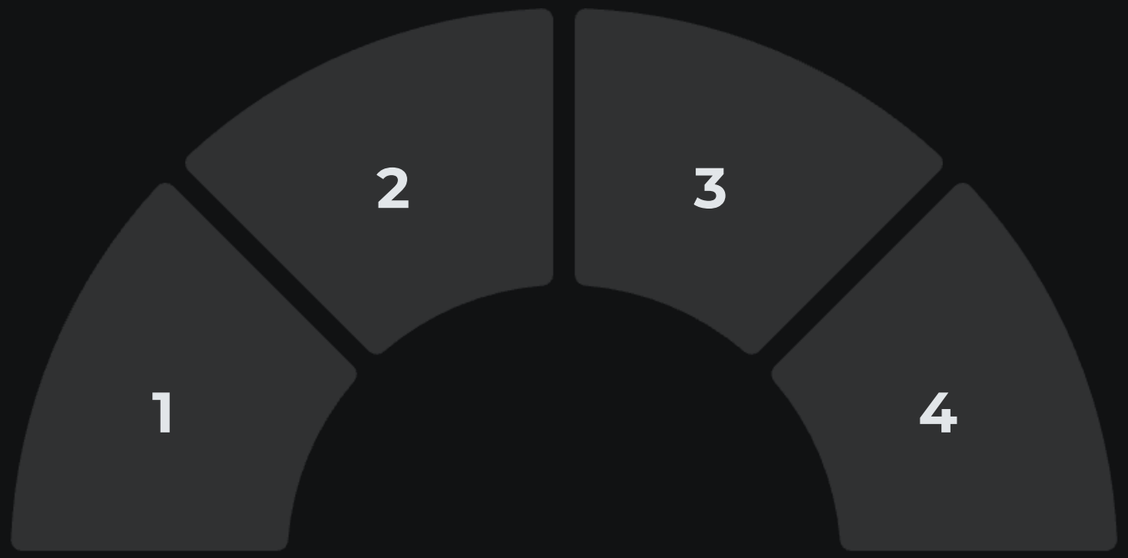
Ensures changes in one system properly propagate to all connected systems.

Data Validation

Implements checks to verify data consistency across system boundaries.

Error Handling

Provides mechanisms to detect and resolve data inconsistencies when they occur.



Key Principles: Standard APIs

Basing integrations on standard APIs is a fundamental principle for maintaining a clean core. SAP designs these APIs to be stable and upgrade-safe, providing a reliable foundation for system interactions.

Instead of creating custom interfaces to access data - like building your own method to pull sales order information - using SAP's standard Sales Order Read API makes upgrades significantly easier. This approach prevents the technical debt that accumulates with custom interfaces.

1 Upgrade Safety

Standard APIs are designed to remain stable across SAP upgrades, reducing integration breakage during system updates.

2 Reduced Maintenance

Less custom code means fewer resources needed for ongoing maintenance and troubleshooting.

3 Better Support

Standard interfaces are fully supported by SAP, providing more reliable assistance when issues arise.

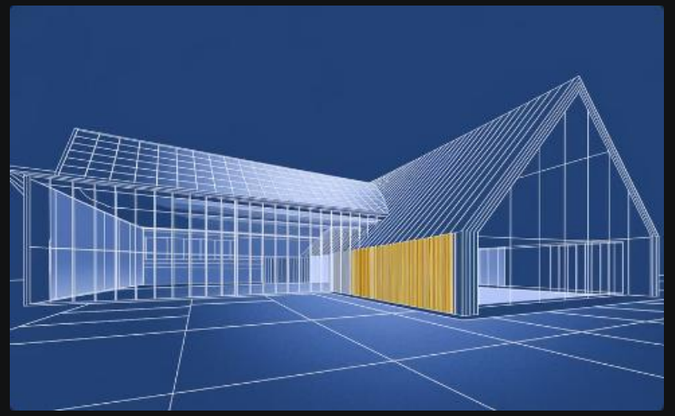
4 Future Compatibility

Standard APIs are more likely to work with future SAP innovations and technologies.

Side-by-Side Extensibility

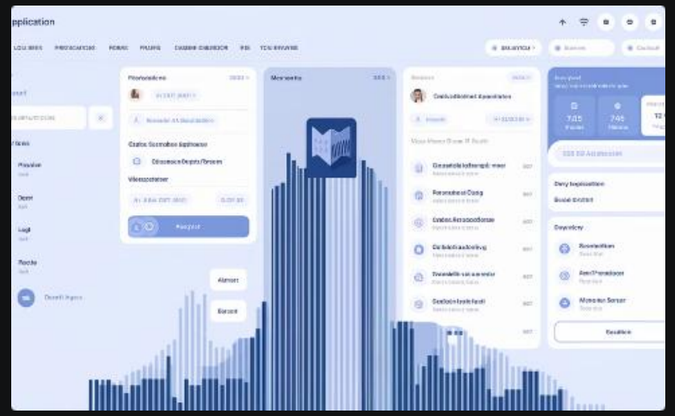
Side-by-side extensibility represents a powerful approach to extending SAP functionality while maintaining a clean core. It's comparable to renovating a house by building an addition rather than modifying the main structure.

This approach leverages SAP Business Technology Platform (BTP) to create extensions that connect seamlessly with your core systems. By keeping custom functionality separate, you preserve the integrity of your SAP core while still meeting unique business requirements.



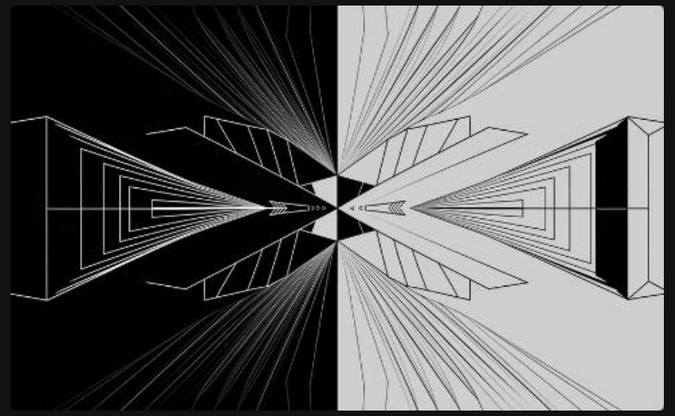
Architectural Separation

Custom extensions run separately from the core system, preventing modifications that complicate upgrades.



Cloud Deployment

Extensions deployed on BTP benefit from cloud scalability, reliability, and simplified maintenance.



Seamless Integration

Despite separation, extensions connect smoothly with core systems through standard APIs and events.

Addressing Integration Questions

Before diving deeper into specific integration approaches, it's important to address common questions that arise when implementing clean integrations. These questions help clarify the path forward and ensure alignment with clean core principles.

Understanding these considerations early in your integration journey helps prevent common pitfalls and ensures your integration strategy supports your business objectives while maintaining a clean core.

1

What business processes need integration?

Identify which processes span multiple systems and require integration to function properly.

2

Which integrations are business-critical?

Determine which integrations directly impact core operations and require highest reliability.

3

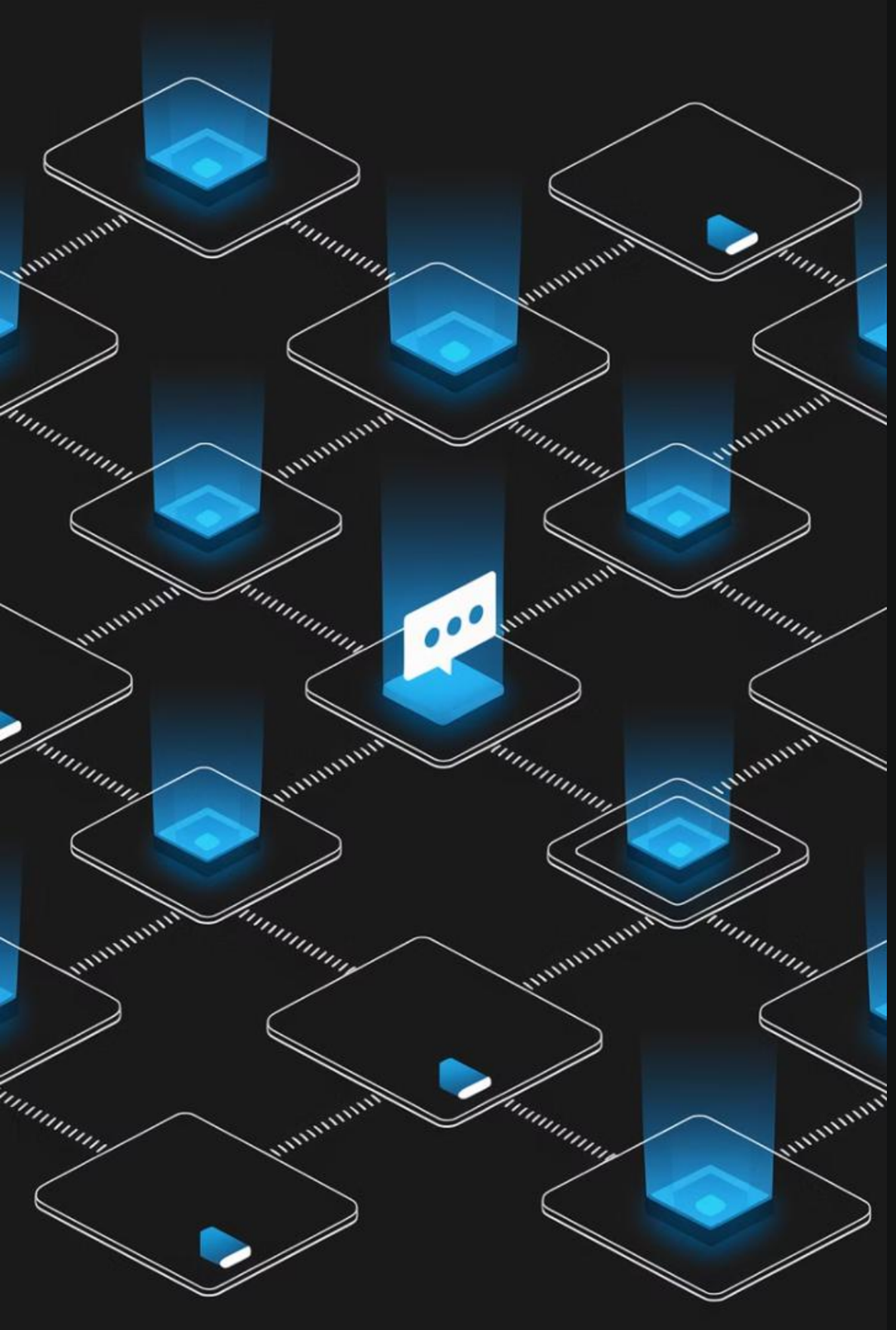
What technical approaches align with clean core?

Evaluate whether current or planned integration methods support clean core principles.

4

How will integrations evolve with business changes?

Consider how integration needs will change as business processes and systems evolve.



Event-Driven Design

Event-driven design represents a modern approach to integration that aligns perfectly with clean core principles. This methodology centers around systems communicating based on business events rather than constant polling or checking.

When a significant business event occurs - like creating a sales order in S/4HANA - it automatically triggers actions in other systems. This approach reduces system coupling, improves performance, and creates more resilient integrations.

1

Business Event Occurs

A significant action happens in the source system (e.g., sales order creation).

2

Event Notification Published

The system broadcasts an event notification to interested subscribers.

3

Subscribers React

Connected systems receive the notification and execute appropriate actions.

4

Process Continues

Business process flows across systems without manual intervention.

Traditional APIs: BAPIs and RFCs

While modern integration approaches are preferred for clean core implementations, many companies still rely on traditional APIs like BAPIs (Business Application Programming Interfaces) and RFCs (Remote Function Calls).

These traditional methods are comparable to using a flip phone in a smartphone world - they function but lack the advantages of newer technologies. Understanding their limitations helps inform decisions about modernizing your integration landscape.

Traditional Approaches

- BAPIs - Function modules exposed for external use
- RFCs - Enable remote system communication
- Direct database access - Reading/writing tables directly
- Custom interfaces - Proprietary integration methods

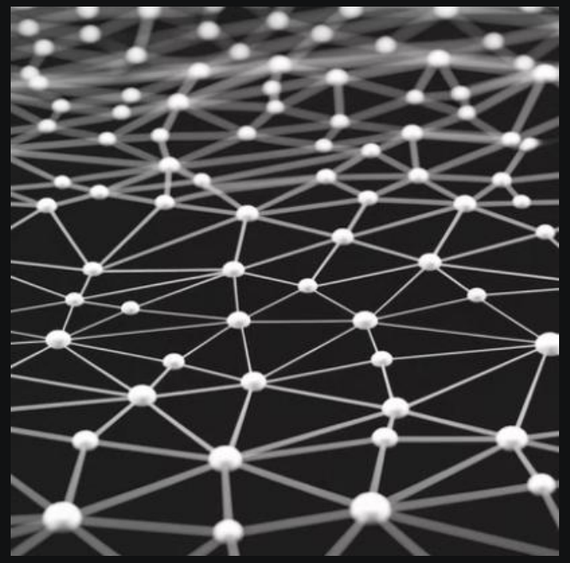
Limitations

- Often tightly coupled to internal structures
- May not be upgrade-safe
- Limited support for modern protocols
- Can create technical debt over time
- May require more maintenance during upgrades

Real-World Application: Introduction

To illustrate clean integration principles in action, let's examine a hypothetical but realistic scenario with GlobalTech Manufacturing. This example represents challenges commonly faced in the industry and demonstrates how clean integration approaches can address them.

GlobalTech had developed over 200 point-to-point integrations between their SAP ERP system and various other systems - including CRM, PLM, shop floor systems, and more. This complex web of connections created significant challenges for system maintenance and upgrades.

GlobalTech's Integration Challenges

GlobalTech's integration landscape presented significant challenges, particularly during system upgrades. Most of their integrations relied on custom BAPIs and direct database access, creating a brittle architecture that frequently broke during updates.

When GlobalTech decided to migrate to S/4HANA, they recognized the need to completely rethink their integration approach. This migration provided the perfect opportunity to implement clean integration principles and create a more sustainable architecture.

Legacy Integration Issues

Custom BAPIs and direct database access created fragile connections that frequently broke during updates.

S/4HANA Migration Decision

The move to S/4HANA necessitated a complete rethinking of integration approaches.

Integration Transformation Planning

GlobalTech developed a comprehensive plan to modernize their integration landscape.

Clean Integration Implementation

The company began systematically implementing clean integration principles.

GlobalTech's Documentation Phase

GlobalTech began their transformation with a comprehensive documentation phase. They cataloged every single integration in their landscape, gathering critical information about each connection's purpose, business importance, and technical implementation.

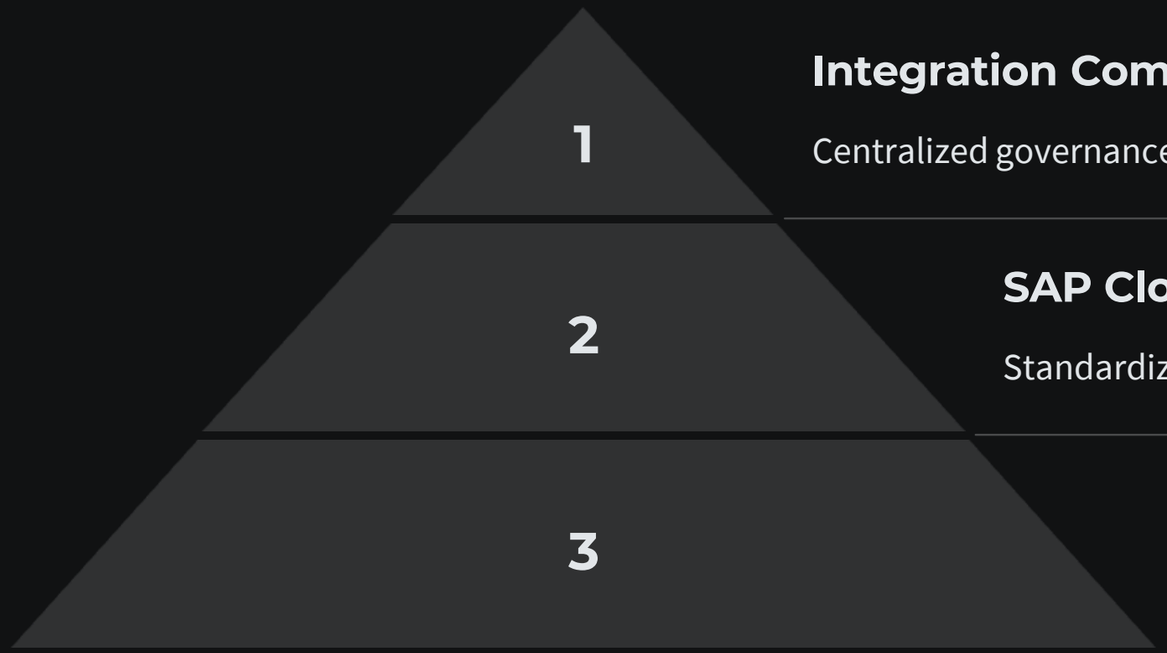
This thorough documentation provided the foundation for their assessment and modernization efforts. By understanding what they had, they could make informed decisions about what to keep, what to modify, and what to eliminate.

Integration ID	Purpose	Business Criticality	Technical Approach
INT-001	Order to Production	High	Custom BAPI
INT-002	Inventory Updates	High	Direct DB Access
INT-003	Customer Master Sync	Medium	RFC
INT-004	Historical Reporting	Low	Direct DB Access

GlobalTech's Clean Sweep Approach

Following their assessment phase, GlobalTech implemented what they called a "clean sweep" approach to integration modernization. This comprehensive strategy transformed their integration landscape from a complex web of point-to-point connections to a streamlined, standards-based architecture.

By replacing direct connections with an API-first approach and establishing SAP Cloud Integration as their integration layer, they created a more maintainable and upgrade-safe environment. The establishment of an integration competency center ensured ongoing governance and best practices.



Integration Competency Center

Centralized governance and expertise

SAP Cloud Integration Layer

Standardized middleware platform

API-First Approach

Standard interfaces replacing custom connections

GlobalTech's Impressive Results

GlobalTech's integration transformation yielded remarkable results that demonstrate the value of clean integration principles. Their systematic approach to modernization delivered significant improvements in efficiency, reliability, and adaptability.

These impressive outcomes weren't just the result of technical changes - they stemmed from a fundamental shift in integration governance. By changing how they approached, managed, and maintained integrations, GlobalTech created a more sustainable and agile integration landscape.

40%

Integration Reduction

Consolidated redundant connections and eliminated unnecessary integrations

70%

API Modernization

Percentage of remaining integrations using standard APIs

60%

Issue Reduction

Decrease in integration-related problems during system updates

Key Takeaways for Clean Integration

As we conclude our exploration of the integration dimension of clean core, let's summarize the key principles that guide effective integration strategies. These takeaways provide a framework for developing and maintaining integrations that support a clean core approach.

By embracing these principles, organizations can create integration landscapes that are more maintainable, adaptable, and aligned with SAP's strategic direction. This approach not only simplifies upgrades but also positions your organization to leverage new technologies and capabilities as they emerge.

1

Standardize Where Possible

Use SAP's standard APIs and events rather than creating custom interfaces

2

Decouple Extensions

Move custom logic to extension applications on SAP BTP rather than modifying the core

3

Embrace Modern Patterns

Adopt event-driven architectures and API-based integration where appropriate

4

Govern Effectively

Establish clear guidelines and processes for creating and maintaining integrations

5

Monitor and Maintain

Implement robust monitoring and regular reviews of your integration landscape