

AX Dynamics 2012 to Dynamics 365 Finance & Operations Migration: Approach and Best Practices

Architecting Dynamics 365 Migration

Migration Framework – AX 2012 to Dynamics 365 F&O

Strategies, Best Practices, and
Technical Insights

From Thought leadership desk @ Kadel Labs



A Comprehensive Guide to Strategies, Tools, and Technical Insights

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Context and Background

In the rapidly evolving business landscape, organizations leveraging AX Dynamics 2012 face several challenges such as performance issues, scalability limitations, and the imminent end of support from Microsoft. Migrating to Dynamics 365 Finance & Operations offers a pathway to modernize and enhance operational efficiency, data management, and integration capabilities with cloud-native features. This white paper explores the strategies, tools, and best practices to successfully navigate the migration journey.

This document will cover the following key areas to provide a comprehensive understanding of the migration process from AX Dynamics 2012 to Dynamics 365 F&O:

Need for Migration

Organizations still using AX Dynamics 2012 face several challenges, including limited scalability, high customization complexity, integration difficulties, and increased risks due to the end-of-support from Microsoft. Migrating to Dynamics 365 F&O is crucial to overcoming these challenges, offering a cloud-native architecture, modern development practices, advanced data management, and enhanced integration capabilities.

Limitation of AX 2012

End of Support from Microsoft
No more updates or security patches, increased risks

Performance Issues
On-premises architecture limits scalability and efficiency

Customization Complexity
Over layering makes upgrades costly and time-consuming

Integration Challenges
Limited connectivity with modern cloud services and emerging technologies

Benefits of Migration

Cloud Native Architecture
Scalable, globally available, and integrates seamlessly with Azure services

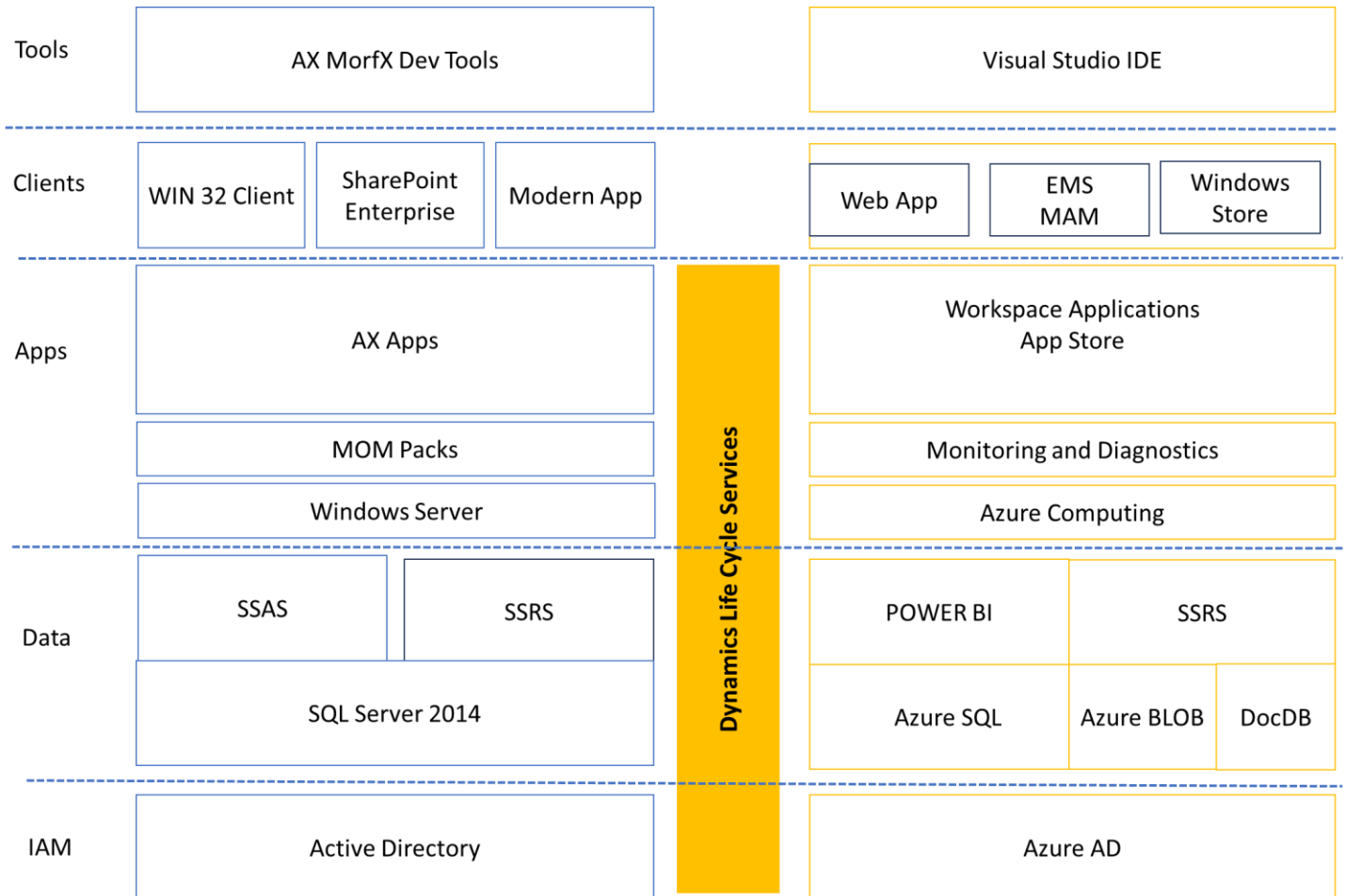
Modern Development
Extension model reduces technical debt and simplifies upgrades.

Advanced Data Management
Efficient data migration and real-time synchronization.

Enhanced Integration
Native integration with Power Platform and Azure services for better agility.

Architectural Insights

Comparing AX 2012 and Dynamics 365 F&O architectures reveals significant improvements in the latter. Dynamics 365 F&O utilizes a cloud-native, scalable architecture, integrating seamlessly with Azure services and providing advanced data management features. The modern development model reduces technical debt and simplifies upgrades, ensuring long-term maintainability and agility.



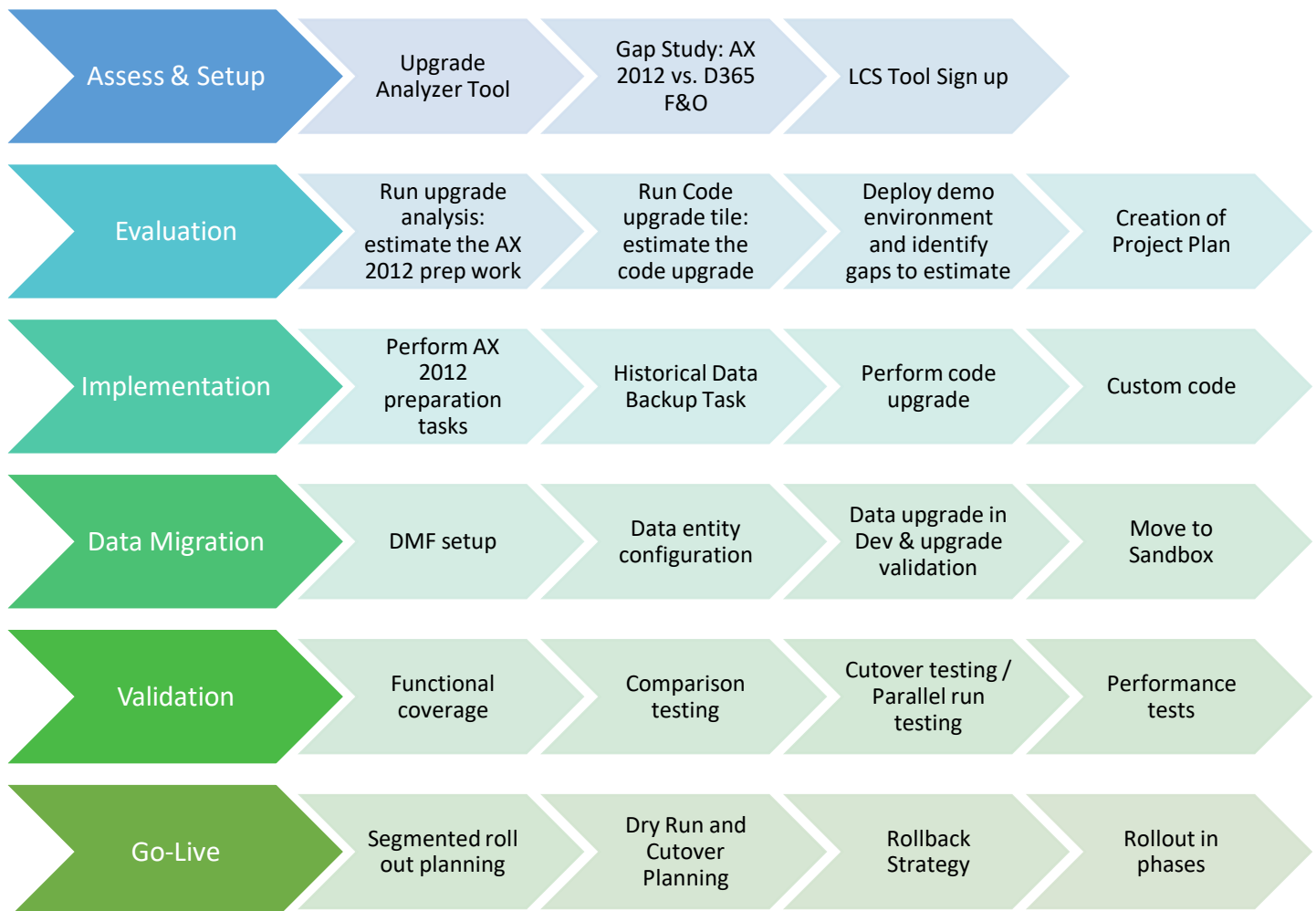
Migration Approach

Toolset driving Your Migration Journey: <https://lcs.dynamics.com/>

The migration process from AX 2012 to Dynamics 365 F&O involves several key phases: Preparation, Evaluation, Implementation, and Validation.

Each phase includes critical steps such as performing a code upgrade, conducting cutover and parallel run testing, and ensuring data migration accuracy.

Utilizing tools like the Upgrade Analyzer and LCS Toolset helps streamline the migration and minimize risks.



Best Practices

To ensure a successful migration, organizations should follow several best practices, including thorough planning and assessment, minimizing customizations by leveraging out-of-the-box features, optimizing data entities, and setting up a robust rollback strategy.

Engaging key stakeholders and ensuring comprehensive user training are also essential to achieving a seamless transition

Code Refactoring and Customizations

- Refactor Legacy X++ Code
- Leverage Event Handlers
- Utilize Chain of Command (CoC)
- Conduct Static Code Analysis through BPA

Data Optimization Strategies

- Review & Optimize Data Entities
 - Use Composite Data Entities
- Vertical and Horizontal Partitioning
- Review all SQL Indexes
- Tune Database for connections and memory

Performance Tuning and Monitoring

- Optimize Batch Jobs and groups for configuration and timings
- Throttle Batch Execution
- Monitor Application Insights (Azure Insights)
- Leverage Database Performance Analyzer

Security and Compliance

- Plan for Role Based Security
 - Define Segregation of Duties for each Role
- Setup DLP
- Review Azure Policy and Compliance Manager settings

Learnings from Past Projects

Past migration projects have highlighted common pitfalls, such as insufficient testing, overlooking user adoption, and inadequate security configurations.

Learning from these experiences, it is crucial to conduct detailed planning, continuous performance monitoring, and rigorous validation checks.

Adopting an iterative approach and involving cross-functional teams can significantly improve migration outcomes.

Challenges faced		Solutions Implemented
General Ledger Posting (Batch Job) General Ledger Posting job overlapped with other resource-intensive processes, leading to delays in financial transactions and system performance issues	→	Optimized Scheduling Scheduled the job to run after business hours and adjusted its priority level, ensuring timely ledger updates and improved system performance.
Data Entity Customization (Development) Direct modification of the CustTable data entity led to conflicts during a D365 F&O update, causing data integrity issues.	→	Refactoring the customization Refactored the customization by creating an extension of the CustTable entity, preserving the custom fields while ensuring compatibility with future updates.
Incorrect Security Roles (Security Config) Security roles were incorrectly configured, leading to users having either too much or too little access, causing disruptions in business processes.	→	Re-design Security Config Conducted a thorough review and redesign of security roles, mapping them accurately to business roles and using the principle of least privilege to ensure appropriate access levels
Incorrect Data Mapping (Data Migration) Incorrect mapping of AX 2012 data fields to D365 F&O entities led to data inconsistencies and errors post-migration.	→	Mapping Review Performed detailed field mapping reviews and validation checks prior to migration, ensuring accurate data alignment and consistency in D365 F&O
Misconfigured Integration Points (Integration) Integration points between D365 F&O and third-party systems were misconfigured, leading to data sync issues and operational disruptions	→	Azure Logic Apps based tracking Reviewed and reconfigured all integration endpoints, implemented retry mechanisms, and used Azure Logic Apps to manage and monitor integration workflows effectively
Overlooking User Training & Change Management (User Adoption) Users struggled with the new D365 F&O interface and processes, leading to reduced productivity and errors.	→	Comprehensive Training Plan Implemented a comprehensive user training program and ongoing support, including hands-on workshops and detailed user guides, to ease the transition and improve adoption

Integration Strategy

A robust integration strategy is key to a successful migration. Dynamics 365 F&O integrates natively with Azure services and Power Platform tools, allowing for seamless connectivity with other cloud and on-premises applications.

Leveraging OData for API-based integrations, using Azure Logic Apps for workflow orchestration, and deploying Azure Service Bus for message-based integration ensures efficient data flow and system interoperability.

API & Data Entities	Azure Integration	Power Platform Integration	Command Data Service Provider
• Leverage OData for seamless API-based integration with external systems • Develop custom data entities to support specific business processes and data flows. • Use RESTful APIs to connect Dynamics 365 F&O with other cloud and on-premises applications.	• Implement Azure Logic Apps for orchestrating complex workflows across different applications. • Utilize Azure Data Factory for large-scale ETL processes and data movement between systems. • Deploy Azure Service Bus for reliable, message-based integration between Systems	• Embed Power BI dashboards within D365 F&O for real-time, visual analytics and reporting. • Use PowerApps to build custom apps that enhance D365 functionalities with minimal dev • Automate routine workflows by integrating Power Automate with D365 F&O	• Use Dataverse for a UDM, ensuring seamless integration across Microsoft and third-party apps • Connect D365 F&O with other Microsoft services via Dataverse • Apply data governance in Dataverse to maintain consistency, quality, and compliance

Performance Tuning & Optimization

Performance optimization is critical in a cloud-based environment like Dynamics 365 F&O.

Key strategies include optimizing batch jobs, using Azure Monitor and Application Insights for continuous monitoring, and tuning database performance using tools like Azure SQL and Dynamics 365's Performance Analyzer for SQL.

Adjusting VM sizes and storage options based on workload also helps maintain optimal system performance.

Environment Configuration

Scale up/down Azure VM sizes based on workload using Azure Autoscale.

- Optimize storage performance using Azure Premium Storage for database files.
- Implement Azure Traffic Manager to optimize user access based on geographic location.

Batch Job Optimization

Configure batch groups to balance load across AOS (Application Object Server) instances.

- Prioritize critical jobs and manage execution order.
- Monitor batch job performance and adjust schedules using the Batch Job Monitor

Continuous Monitoring

Implement continuous monitoring using Azure Monitor and Application Insights.

- Set up alerts for resource usage and potential bottlenecks
- Use Dynamics 365's Performance Analyzer for SQL to detect and resolve long-running queries

Security & Compliance

Maintaining security and compliance during and after the migration is paramount. Dynamics 365 F&O offers robust security features such as role-based security, data encryption, and compliance with standards like GDPR and SOX. Implementing safeguards for data protection, reviewing Azure Policy and Compliance Manager settings, and conducting regular audits are essential to ensure compliance and data integrity.

Security



- ☐ Automatically encrypts data at rest in Azure SQL Database.
- ☐ Azure Key Vault for Key Management
- ☐ Secure data transmission using TLS to protect data during transfer
- ☐ Encrypt sensitive data fields within applications before storage
- ☐ Ensure that database backups are encrypted to protect data during storage.

Compliance



- ☐ PII-Ensure personal data protection and regulatory adherence.
- ☐ Implement safeguards to protect health information.
- ☐ SOX-Establish controls for financial reporting and data integrity.
- ☐ Use Azure tools to automate compliance checks and generate reports.

Conclusion

Migrating from AX Dynamics 2012 to Dynamics 365 F&O enables organizations to embrace a modern, scalable, and efficient ERP system. By following the outlined strategies and best practices, businesses can ensure a smooth transition, minimize risks, and achieve significant operational improvements.

About Kadel Labs

Kadel Labs is a trusted partner in ERP/CRM digital transformation, with a strong focus on helping organizations migrate to modern cloud-based solutions like Dynamics 365 F&O. Our team of experts provides end-to-end support, from initial assessment and planning to implementation and optimization.

Contact Information

For more information or to discuss your migration needs, please reach out to us:

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