



Link Development Shifts IKEA KSA into Azure with Hybrid Application Modernization Solutions



A digital pioneer, IKEA KSA sought to digitally transform its huge digital infrastructure as part of its ambition to boost the performance and security of their flagship systems including the "Customer Hub". As per IKEA's cloud adoption strategy to modernize on-premises solutions on Azure, Link Development transformed their architecture using a real-time, hybrid integration model for their on-premises BizTalk Server and Azure Integration Services using Logic Apps native connectors and more.

Customer	IKEA KSA
Industry	Retail
Technology	Dynamics 365 CRMOL, SP Online, BizTalk Logic Apps, Power BI, Social Engagement, AI, Machine Learning

IKEA Saudi Arabia

First established in 1943 in Sweden, the giant manufacturer and retailer, IKEA, saw 775 million visitors across 389 IKEA stores in 42 different countries during 2017. IKEA's vision is "to create a better everyday life" by "offering a wide range of well-designed, functional home furnishing products at prices so low that as many people as possible will be able to afford them." IKEA Saudi Arabia opened its first showroom in 1983 in Jeddah. Today the company has seven stores operating with more than 1,200 co-workers, serving 12 million physical visitors and 12.5 million online visitors per year.

IKEA's Giant Architecture Transformation

Within a myriad of about 11 systems, largely hosted on premises, under its belt, IKEA's productivity was challenged by lengthy processes, slow performance and costly infrastructure.

In integrating this digital labyrinth into a unified D365-based system: the Customer-Hub, Link Development transformed the whole architecture to reach new dimensions of success.

In accordance with IKEA's cloud adoption strategy to modernize on-premises solutions by leveraging Azure, Link Development provided a hybrid architecture to provide real-time, hybrid integration model which spanned on-premises BizTalk Server and Azure Integration Services.

"IKEA strives to create a better everyday life for the many people and this digital transformation is considered as a dynamic solution and a step we have always sought: upgrade our customer service and optimize our operational performance, in the light of the Kingdom's Vision 2030.

This partnership with Link Development will make the work process easier and lead to higher customer satisfaction.

We strongly believe that the "Customer Hub" project will open up many opportunities for new potential customers and support our omni-channel strategy, all in efforts to win the heart of our customers."

*Saud Al Sulaiman
Chief Executive Officer, IKEA Saudi Arabia*

Digital Snapshot

The current integration solution leverages on-premises BizTalk Server, as the message broker to streamline and decouple the CRM system from IKEA's downstream systems.

The BizTalk Server handles protocol mediation, service orchestration, message transformation, and routing for the required real-time integrations. BizTalk services are published as WCF Web Services (as REST and SOAP endpoints) and these services are deployed on a local IIS Web Server.

Their Dynamics CRM integrations are generally categorized into: customer profile synchronization, customer-related data aggregation, and case management workflow integrations. These integrations manifest as RPC and Event-based integration styles through the message broker.

Migration Stages

Link Development introduced a hybrid architecture to be used as a step towards implementing IKEA's full progressive cloud solutions adoption, before eventually relying on cloud-native solutions and decommissioning on-premises integration platform and LOB systems.

The hybrid integration model paved the way for the cloud-hosted integration architecture. This stage was designed to initially minimize the impact of breaking changes to existing clients while maximizing existing investments in terms of current on-premises integration solution and backend systems.

Cloud Integration Foundation

In this stage, the foundation was set for the cloud-hosted integration architecture with a hybrid integration model. Newly developed integration points leveraged Azure Integration Services, while existing integration points are still provided by BizTalk Server, where the integrations with IKEA's backend systems are conducted over the public internet using Logic Apps native connectors.

Rehosting BizTalk Integration Points

During this stage, existing clients were gradually onboarded to the new Azure integration services endpoints. By the end of this stage, all client applications had switched to the new Azure integration services endpoints with an already decommissioned use of on-premises integrations service endpoint and a completely refactored client implementation for the new integration service.

Target Integration Architecture

A Complete Hybrid Model

In this stage, the hybrid integration model was finalized. The backend service wrappers were refactored to directly integrate Logic Apps with backend services, instead of using BizTalk published Services. While existing Azure integration services were assessed for the feasibility of refactoring any existing basic operations provided by the backend business service layer and replace it with the relevant Logic Apps connectors for the selected basic operations provided by LOB systems.

The Benefits:

- High-performance, modernized infrastructure and applications
- A new omni-channel experience with all IKEA's KSA touch points
- Laying grounds for customer excellence by identifying customer issues and trends early on and proactively resolving them
- Faster time to market for new services on all channels
- Customer loyalty and retention were enhanced by providing personalized experiences
- With Cloud total cost of ownership is low • Processing time of internal operations fell drastically
- Customer agents were able to handle more customers a day
- Better strategic planning based on timely and valuable inputs
- Culture of knowledge sharing is instilled amongst members of the organization

Technologies

- Dynamics365
- CRM Online
- SharePoint Online
- Logic Apps
- Power BI
- Dynamics 365 Social Engagement

The Integration Patterns

Synchronous Integrations

This handled synchronous stateless, short-running integration scenarios that required real-time request processing and the return response over the same client connection.

Asynchronous Integrations

In case client applications would require invoking a long-running process at IKEA backend systems, an asynchronous integration style is used. This is the case when, for instance, a human workflow is initiated at the backend system, and the client applications do not require immediate request processing and response.

Inside-Out Security

Security controls were considered on the transport level, Azure workload level, and API level. This layered security approach provided security control redundancy at different system tiers. However, it hardened the overall security level of the overall solution.

Network Resources Security

- Azure Firewall
- Azure Virtual Network

Integration Resources Security

- Azure APIM
- Azure Logic Apps

Azure APIM for Governance

Azure APIM platform allows the application of IKEA's governance structures by providing granular access control over published APIs for API Developers (Service Consumer Partners) and API Publishers (Service Provider Partners).

Azure APIM governance and compliance policies are applied selectively to each of these logical scopes (Global, Product, API, and Operation), if needed.

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Link Development helped us to navigate a digital route that looked too complex in optimal time; exceeding our expectations.

At IKEA Saudi Arabia we had many disconnected systems constituting the backbone of our operations. The diversity and disparity of residing data was becoming overwhelming. And, our business ambition for increased customer satisfaction was soaring.

We needed to embed customer excellence know-how in every technical decision and digital direction we take.

Link Development digitally transformed our complex environment into an integrated, productive one. Together, we used plenty of Microsoft technologies and capitalized on the cost-efficiency and security of Azure.

IKEA KSA is now a digital leader across the Inter KIEA ecosystem. It doesn't stop here. As digital has no ceiling, so is our determination to work with Link Development in continuing our journey of digital transformation towards our business objectives

Anas Shehab, Chief Information Officer IKEA Saudi Arabia

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