

## Beyond Headless:

### The Ultimate Building Blocks for a Truly Composable Storefront



SkillNet's *Beyond Headless* is a platform-agnostic headless accelerator framework built on micro frontend technology. It represents a paradigm shift in the approach to building and delivering web applications, but it's not a product. It's our design approach for a next-gen headless architecture that enables the creation of modular, scalable, and customizable frontend applications without being tied to a specific technology or predefined set of features.

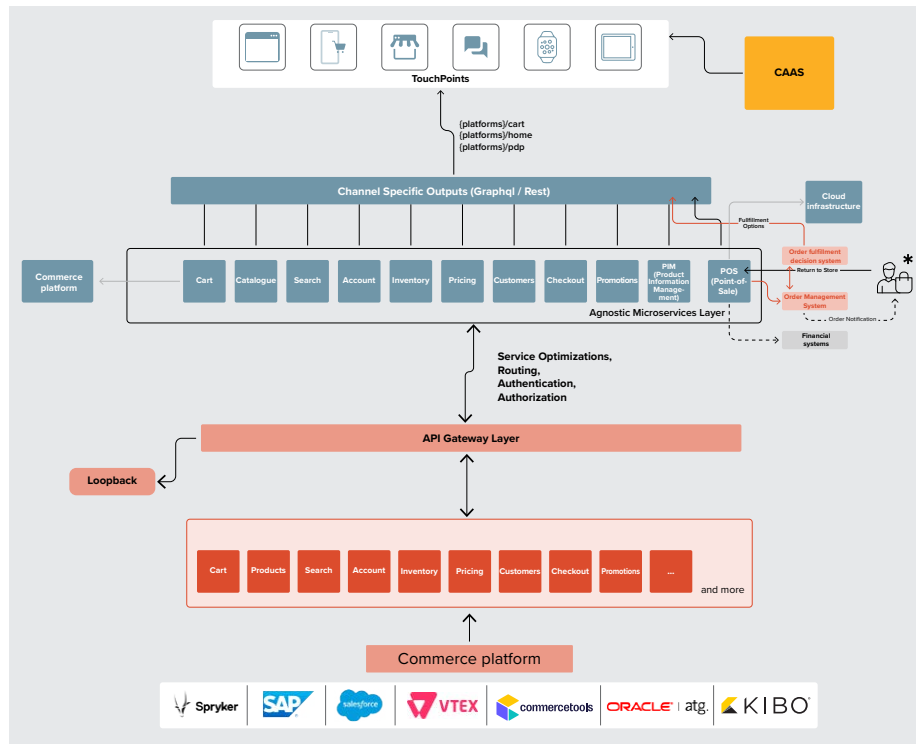


Figure: Sample Architecture

[click to enlarge in browser](#)

## Micro Frontends vs Traditional Headless

**Traditional Headless:** separates the frontend (presentation layer) from the backend (business logic), enabling independent development and deployment of frontend and backend functionalities. However, the frontend remains a single application that is still tightly coupled across features and functions of the application.

**Micro Frontend Technology:** more fully embraces the concept of distributed development, offering a revolutionary way to build complex, large-scale web applications by breaking them down into manageable, loosely coupled modules that are each responsible for a distinct feature of your eCommerce website or application.

The frontend is composed of independent, self-contained units, each with its own business logic, UI components, and APIs. These units each have their own functionality, codebase, and deployment process, enabling each micro frontend to be developed, tested, and deployed independently.



### Developer-Friendly Tech Stack

- Next.js
- Typescript
- Node.js
- NRWL



### Polyglot Microservices

Use multiple programming languages and technologies simultaneously



### Embedded AI

Automate repetitive tasks like generating product metadata

# Benefits for IT and Business Teams

## Greater Agility, Iteration, Maintainability & Fault Tolerance

Modular Frontend Development: each component (or micro frontend) can be developed, deployed, and maintained independently for faster development cycles, and if one micro frontend fails, it doesn't impact the entire application.

### IT Benefits:

- » Technical teams can develop specific features (like dynamic pricing, advanced search, real-time inventory, etc.) as independent units.
- » The modular design streamlines development, testing, maintenance, debugging, and experimentation.
- » Eliminates the risks associated with monolithic frontend applications where changes to one component impact others.

### Business Value:

- » Faster development cycles mean quicker time-to-market, innovation, and experimentation for better user experiences, higher conversion rates, and increased customer satisfaction.
- » Businesses can adapt swiftly to changing requirements, market demands, user feedback, and new opportunities.
- » Greater maintainability translates to lower long-term costs associated with maintenance and bug fixes.

## Increased Scalability & Performance

Due to the independent nature of micro frontends, teams can scale specific components horizontally as needed. Micro frontends can be loaded independently for improved performance.

### IT Benefits:

- » Allows more fine-grained and targeted scaling compared to a headless frontend that's monolithic, handling traffic spikes more efficiently.
- » As your application grows and more features are added, new micro frontends can be created without increasing the complexity or size of existing ones.
- » Makes it easier to implement complex features that might be challenging in a traditional monolithic frontend.

### Business Value:

- » Greater scalability ensures consistent performance during peak times and prevents revenue loss due to downtime or slow performance. For example, a user searching for a product doesn't need to wait for the entire application to load; only the search micro frontend needs to be loaded.
- » Isolated scaling also enables cost optimization as resources can be allocated only where needed.

## Reusability

Individual components are reusable across different parts of the same storefront, or even entirely different applications.

### IT Benefits:

- » Common UI components (e.g., product listings, shopping cart) can be built and maintained once and then reused across all eCommerce stores.

### Business Value:

- » Reuse of micro frontends translates to lower development costs and consistent UX.

## Greater Technology Diversity

Offers developers the freedom to use diverse technologies (e.g., React, Vue, Angular) for different micro frontends.

### IT Benefits:

- » Teams can choose the tools best aligned to their expertise or best suited to the requirements for each component (i.e., micro frontend). For example, a micro frontend responsible for real-time inventory availability could use a technology optimized for real-time data.
- » Integration with third-party services or legacy systems becomes seamless.

### Business Value:

- » Ensures easier future-proofing.
- » Businesses can adopt new technologies without overhauling the entire frontend.
- » The ability to use diverse frameworks enables building a best-in-class user experience by leveraging the strengths of each technology, as well as it opens a wider talent pool of developers for easier recruiting.

## Greater Team Autonomy and Clearer Ownership

Teams can take ownership of specific micro frontends (components/functionality), fostering autonomy and accountability.

### IT Benefits:

- » Teams can better innovate, optimize, and maintain their components effectively.
- » Team members can specialize in specific areas, becoming experts in their chosen frameworks.

### Business Value:

- » Clearer ownership leads to better quality and faster feature development for reduced time-to-market.
- » Businesses benefit from empowered, efficient teams.

## About SkillNet

**25+**  
Years

**150+**  
Brands

**63+**  
Countries

**10 years**  
Average Consultant Experience

Headquartered in San Jose, CA, SkillNet Solutions is a leading provider of consulting, engineering, and system integration services. We help enterprises modernize their omnichannel touchpoints to better engage and transact with their end customers, offering expertise in modern composable, cloud-native, and headless solutions across diverse business models such as B2C, B2B, B2B2C, and marketplaces. We partner with industry leaders to offer best-in-class enterprise solutions, including AWS, Cloudinary, commercetools, Contentstack, Mirakl, Oracle, Salesforce Commerce Cloud, SAP Commerce Cloud, Spryker, and VTEX. With a track record spanning over two decades, SkillNet has worked with leading brands across the globe to deliver unparalleled customer experiences and drive growth.

✉ info@skillnetinc.com

🌐 www.skillnetinc.com

in X f

**SKILLNET**  
MAKERS OF MODERN COMMERCE

All product names and trademarks are property of their respective owners.

© SkillNet Inc 2024