

Enterprise Architecture (MVP) Write-up

⚠️ 1st Draft Version!

Experience Layer (Front-ends)

The front-end, while initially limited to a standard, out-of-the-box flow, must be built on headless commerce principles. The logical choice is SAP Spartacus, an open-source single-page app storefront driven by SAP. UX design should take a mobile-first approach to ensure a slick, responsive experience on mobile devices, but no native mobile applications will be considered during the MVP phase. Spartacus does support PWA and we will look to enable this during MVP or shortly after.

The intent is to provide 3 storefronts for CFS, Liquorshop and Transpharm (B2C) on the same codebase in the MVP release, and then roll out to Financial Services and Franchise in the second extension.

Proposed Technology Solution

- Spartacus



Assumptions

- No native mobile application development for MVP

API Service Gateway


Technology:




- Various (As defined by Shoprite Integration)
- Responsibility for this layer is with Shoprite Integration
- Main purpose of the API gateway is to provide an abstraction layer between the experience layer(frontends) and the technology implementing a service. This is to facilitate roadmapped service technology migration, without requiring significant changes on the experience layer.
- Capabilities required of the api gateway
 - Request Orchestration (single request by a client can be broken into multiple service requests)
 - Protocol transformation
 - Request transformation
 - Endpoint authentication
 - Endpoint authoristaion
 - Logging
 - Reporting

Packaged Business Capabilities

Identity and Auth






Proposed Technology Solution:	Features Serviced	Integration / Data flow
CIAM / Akamai Identity Cloud 	<ul style="list-style-type: none"> • Authentication <ul style="list-style-type: none"> • Login • Forgot / Reset Password • Change Password • Authorisation <ul style="list-style-type: none"> • User / Role Management • Permissions 	

Customer

Proposed Technology Solution:	Features Serviced	Integration / Data flow
CIAM / Akamai Identity Cloud 	<ul style="list-style-type: none"> • Customer Data Management <ul style="list-style-type: none"> • Customer master data • Registration (self-service) • Customer take-on (back-office) • Address Management • Consent management • Data privacy (POPIA/GPDR) • Termination • Login <ul style="list-style-type: none"> • Hard vs Soft login • Timeouts • Login via Social Media accounts (OOS) • 360 degree customer view (ASM) <ul style="list-style-type: none"> • Transactional history • Affinity Segmentation • Loyalty <ul style="list-style-type: none"> • Joining / leaving • Card details 	





Product Information Management

Proposed Technology Solution:	Features Serviced	Integration / Data flow

<p>SAP Commerce</p> <p>SAP Hybris  Commerce</p>	<ul style="list-style-type: none"> • Catalog Management <ul style="list-style-type: none"> • Which products you sell, where • Storefront ranging • Master Data Management, i.e. "golden record" (TBC MVP state with Bruce) • Media Management <ul style="list-style-type: none"> • Product Images (Silo) • Brand Images • Category Images • Videos, Spec sheets / PDFs • Product Information Management <ul style="list-style-type: none"> • Product Take-on processes / Approval workflow • Attributes • Classification Attributes • Categories • FABs • Data Enrichment • Accuracy (quality) / Coverage • Related products (explicitly linked) • Supplier enrichment / portal • Translation • Deduplication  	<p>Systems of record</p> <ul style="list-style-type: none"> • Product Master: BU-specific ERPs <ul style="list-style-type: none"> • CFS: MS Dynamics Navision • Liquor: SAP ERP  • Transpharm: Positil  • Images / Media <ul style="list-style-type: none"> • Silo integrated to SAP Commerce • Product data enrichment, classification <ul style="list-style-type: none"> • Authored in SAP Commerce • Navigation Category mapping <ul style="list-style-type: none"> • Authored in SAP Commerce <p> IDS not in scope - TBC with Bruce</p>
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Search & Merchandising

Proposed Technology Solution:	Features Serviced	Integration / Data flow
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<p>SAP Commerce</p> <p>SAP Hybris  Commerce</p>	<ul style="list-style-type: none"> • Merchandising <ul style="list-style-type: none"> • Search Configuration <ul style="list-style-type: none"> • Free text product search • Content search • Facets • Searchhandising <ul style="list-style-type: none"> • Hero products • Boost / Bury rules • Synonyms • Keyword redirects • Personalisation • Product Pricing <ul style="list-style-type: none"> • Regional / store-specific (Point of Service- specific pricing • Separate prices per storefront • Weight / weight-unit pricing • Volume pricing • Installment sales • Customer price groups • UoM • Margin & Savings • Stock <ul style="list-style-type: none"> • Availability, location • Status (e.g. discontinued) • Product Rules <ul style="list-style-type: none"> • Visibility rules • Shopability rules • Marketing <ul style="list-style-type: none"> • Promotions <ul style="list-style-type: none"> • Discounts • Bonus buys • Flash Sales • Recommendations <ul style="list-style-type: none"> • product recommendations, personalised carousels & categories • customer segmentation • Loyalty <ul style="list-style-type: none"> • Earn • SEO <ul style="list-style-type: none"> • Metadata, annotations, URL structures, site maps • Analytics <ul style="list-style-type: none"> • Commerce tracking • Campaign tracking 	<p>Search & Searchandising</p> <ul style="list-style-type: none"> • SOLR in SAP Commerce <p>Pricing & Discounts</p> <ul style="list-style-type: none"> • Mastered in BU-specific ERP <p>Stock</p> <ul style="list-style-type: none"> • ERP  • CAR  <p>Bonus Buys</p> <ul style="list-style-type: none"> • Mastered in NCR Loyalty Pro, exposed to Commerce by CLPE • Recommendations: SAP Marketing 
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CMS

Proposed Technology Solution:	Features Serviced	Integration / Data flow
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SAP Commerce 	<ul style="list-style-type: none"> Content Management <ul style="list-style-type: none"> Content pages Banners Personalisation <ul style="list-style-type: none"> Targeted content Targeted offers Personalised search boosting Digital Advertising <ul style="list-style-type: none"> Targeted advertising 	<ul style="list-style-type: none"> Personalisation: Sap Marketing, Shoprite BT Advertising: Rainmaker
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Cart & Checkout


Proposed Technology Solution:	Features Serviced	Integration / Data flow
SAP Commerce 	<ul style="list-style-type: none"> Cart Management <ul style="list-style-type: none"> Add/Remove/ Change qty Merge cart Promotions <ul style="list-style-type: none"> Targeted offers, cross- and up-sell Deliver to Address <ul style="list-style-type: none"> Address validation Click & Collect <ul style="list-style-type: none"> Store location & hours Delivery Fee <ul style="list-style-type: none"> Distance Service Basket size & type Delivery ETA <ul style="list-style-type: none"> Availability & Lead time, processing time Scheduled slot bookings Delivery Restrictions <ul style="list-style-type: none"> Region Checkout Sales Tax 	

Order Management

Proposed Technology Solution:	Features Serviced	Integration / Data flow
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<p>SAP Commerce</p> 	<ul style="list-style-type: none"> • Orders <ul style="list-style-type: none"> • Create Order • Complete Order • Order Tracking • Order Amendments <ul style="list-style-type: none"> • Cancellations • Substitutions • Fulfilment <ul style="list-style-type: none"> • Delivery Tracking • Inventory Availability <ul style="list-style-type: none"> • stock on hand per line item • future stock • consignment stock • jit orders • Order Sourcing <ul style="list-style-type: none"> • determine the best place to fulfil the basket • Ship / Collect from Store / DC • IBT rules • Dropship • 3PL warehousing services • Carrier determination <ul style="list-style-type: none"> • based on service available per BU 	<ul style="list-style-type: none"> • Orders posted to BU-specific ERP • POD from Trackmatic / direct from Couriers ?
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Financial Services

Proposed Technology Solution:	Features Served	Integration / Data flow
	<ul style="list-style-type: none"> • Card Payment Services • EFT / instant EFT ? • Account Payment • Refunds • Loyalty redemption • Financial Transaction Posting • Reconciliation 	<ul style="list-style-type: none"> • Ecentric Payment Gateway as PSP will interact with SAP Commerce for payment instructions and payment notifications • Account payment: OTB balance from individual BU financial / ERP systems • Recon reports to individual BUs fico systems

Integration Hub / Data Abstraction Layer

Technology:



- Various (As defined by Shoprite Integration)
- Responsibility for this layer is with Shoprite Integration

- Main purpose of the Integration Hub is to provide an abstraction layer between the service layer and the Existing / Legacy / 3rd Party Systems. This is to facilitate roadmapped service technology migration, without requiring significant changes to existing integrations to Existing / Legacy / 3rd Party Systems.
- Capabilities required of the Integration Hub
 - Orchestration
 - Data Transformation
 - Monitoring and Alerting

Existing / Legacy / 3rd Party Systems

ERP



- CFS: MS Dynamics Navision
- Liquorshop: SAP ERP
- Transpharm: Positill ?

Finance



- CFS: MS Dynamics Navision
- Liquorshop: SAP FiCo ?
- Transpharm: Positill ?

Warehouse Management Systems (WMS)



- CFS: MS Dynamics Navision ?
- Liquorshop: ?
- Transpharm: ?
- No in-store picking for MVP

Delivery / Last Mile Fulfilment



- CFS: Own fleet, Trackmatic ?
- Liquorshop: Mr D, Courier ?
- Transpharm: Mr D, Courier ?

Customer Contact Center / CRM Services



- Shared: C4C, Genesis
- Providing Helpdesk and call center features

Loyalty Engine



- Shared: NCR Loyalty Pro, CLPE (Commerce Loyalty & Promotion Engine)
- Campaign management

Payment Service Provider



- Shared: Ecentric Payment Gateway

Analytics & Reporting



- Google Analytics
- SAP Marketing Cloud

BI & Reporting



- Shared: AWS DataLake

POS

- CFS: ?
- Liquorshop: ?
- Transpharm: ?

Digital Advertising



- Rainmaker media

