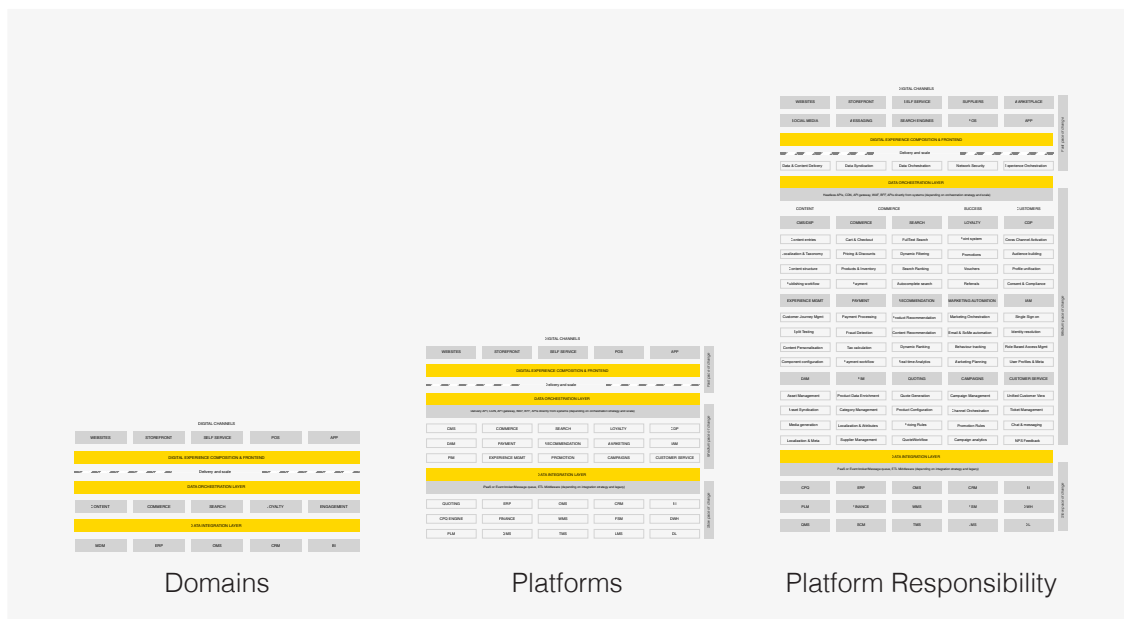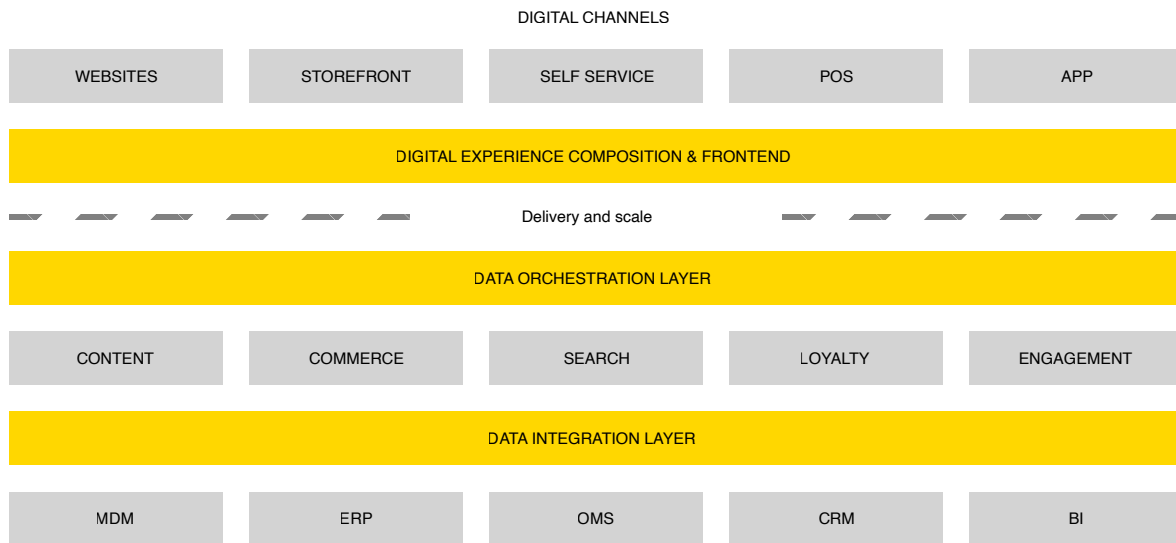# MACH Alliance Reference Architecture Diagrams

Rev 1.4 - 2024.05.28
Adam Peter Nielsen

Brought to you by the MACH Alliance Interoperability Task Force.
For more reference material and insights, visit the Interoperability Hub:
machalliance.org/interoperability

Domains   Platforms   Platform Responsibility

MACH

A L L I A N C E

MACH Alliance Reference Architecture Diagram
Reference Architecture for Composable Ecosystem - Low detail, domain level

DIGITAL CHANNELS

WEBSITES	STOREFRONT	SELF SERVICE	POS	APP

DIGITAL EXPERIENCE COMPOSITION & FRONTEND

Delivery and scale

DATA ORCHESTRATION LAYER

CONTENT	COMMERCE	SEARCH	LOYALTY	ENGAGEMENT

DATA INTEGRATION LAYER

MDM	ERP	OMS	CRM	BI

MACH Alliance Reference Architecture Diagram
Reference Architecture for Composable Ecosystem - Medium detail, platform level

DIGITAL CHANNELS

WEBSITES	STOREFRONT	SELF SERVICE	POS	APP

DIGITAL EXPERIENCE COMPOSITION & FRONTEND

Delivery and scale

Fast pace of change

DATA ORCHESTRATION LAYER

Delivery API, CDN, API gateway, WAF, BFF, APIs directly from systems (depending on orchestration strategy and scale)

CMS	COMMERCE	SEARCH	LOYALTY	CDP
DAM	PAYMENT	RECOMMENDATION	MARKETING	IAM
PIM	EXPERIENCE MGMT	PROMOTION	CAMPAIGNS	CUSTOMER SERVICE

Medium pace of change

DATA INTEGRATION LAYER

iPaaS or Event broker/Message queue, ETL Middleware (depending on integration strategy and legacy)

QUOTING	ERP	OMS	CRM	BI
CPQ ENGINE	FINANCE	WMS	FSM	DWH
PLM	QMS	TMS	LMS	DL

Slow pace of change

MACH Alliance Reference Architecture Diagram
Reference Architecture for Composable Ecosystem - High detail, platform responsibility level

DIGITAL CHANNELS

WEBSITES	STOREFRONT	SELF SERVICE	SUPPLIERS	MARKETPLACE
SOCIAL MEDIA	MESSAGING	SEARCH ENGINES	POS	APP

Fast pace of change

DIGITAL EXPERIENCE COMPOSITION & FRONTEND

Delivery and scale

Data & Content Delivery	Data Syndication	Data Orchestration	Network Security	Experience Orchestration

DATA ORCHESTRATION LAYER

Headless APIs, CDN, API gateway, WAF, BFF, APIs directly from systems (depending on orchestration strategy and scale)

Medium pace of change

CONTENT	COMMERCE		SUCCESS	CUSTOMERS
CMS/DXP	**COMMERCE**	**SEARCH**	**LOYALTY**	**CDP**
Content entries	Cart & Checkout	FullText Search	Point system	Cross Channel Activation
Localization & Taxonomy	Pricing & Discounts	Dynamic Filtering	Promotions	Audience building
Content structure	Products & Inventory	Search Ranking	Vouchers	Profile unification
Publishing workflow	Payment	Autocomplete search	Referrals	Consent & Compliance
EXPERIENCE MGMT	**PAYMENT**	**RECOMMENDATION**	**MARKETING AUTOMATION**	**IAM**
Customer Journey Mgmt	Payment Processing	Product Recommendation	Marketing Orchestration	Single Sign on
Split Testing	Fraud Detection	Content Recommendation	Email & SoMe automation	Identity resolution
Content Personalisation	Tax calculation	Dynamic Ranking	Behaviour tracking	Role Based Access Mgmt
Component configuration	Payment workflow	Real-time Analytics	Marketing Planning	User Profiles & Meta
DAM	**PIM**	**QUOTING**	**CAMPAIGNS**	**CUSTOMER SERVICE**
Asset Management	Product Data Enrichment	Quote Generation	Campaign Management	Unified Customer View
Asset Syndication	Category Management	Product Configuration	Channel Orchestration	Ticket Management
Media generation	Localization & Attributes	Pricing Rules	Promotion Rules	Chat & messaging
Localization & Meta	Supplier Management	QuoteWorkflow	Campaign analytics	NPS Feedback

DATA INTEGRATION LAYER

iPaaS or Event broker/Message queue, ETL Middleware (depending on integration strategy and legacy)

Slow pace of change

CPQ	ERP	OMS	CRM	BI
PLM	FINANCE	WMS	FSM	DWH
QMS	SCM	TMS	LMS	DL

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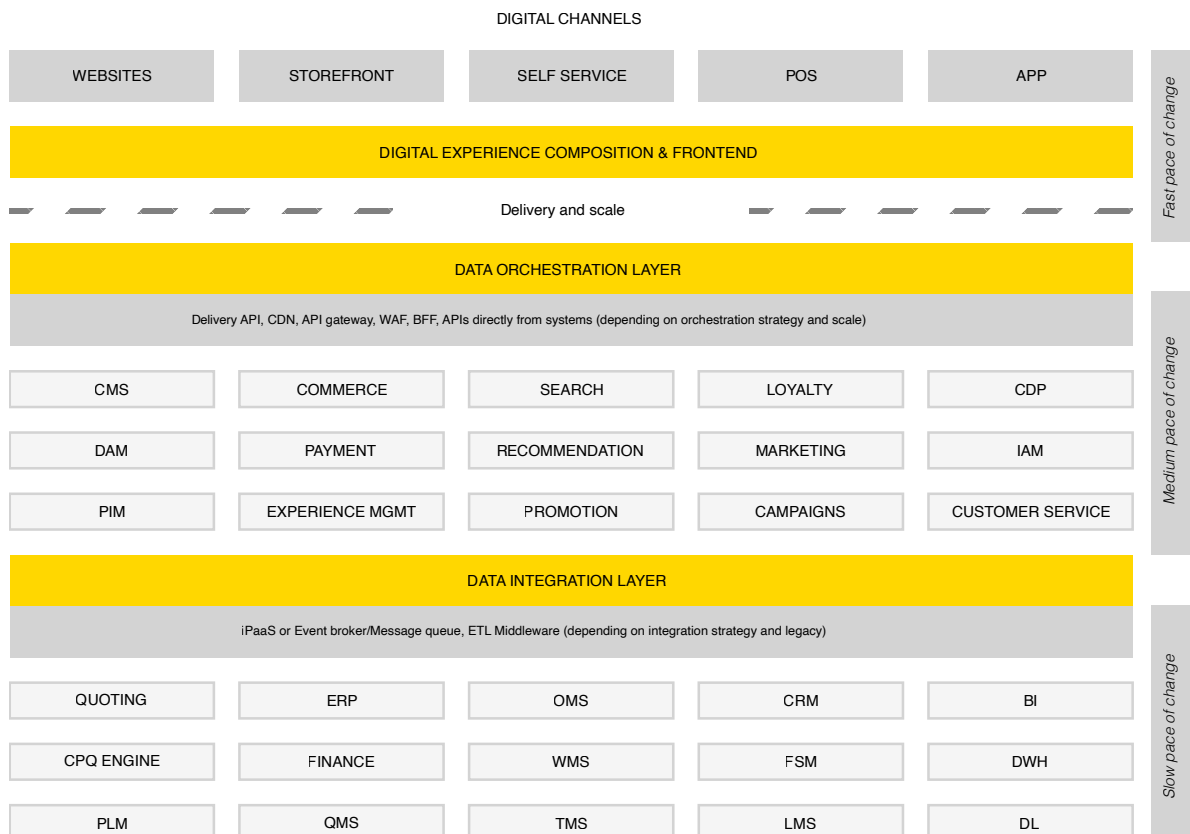*For more reference material and insights, visit the Interoperability Hub: machalliance.org/interoperability*