BEST-PRACTICE GUIDE · TECHNICAL EDITION · PGC DIGITAL

SAP Commerce Cloud B2B order-to-cash: the technical edition



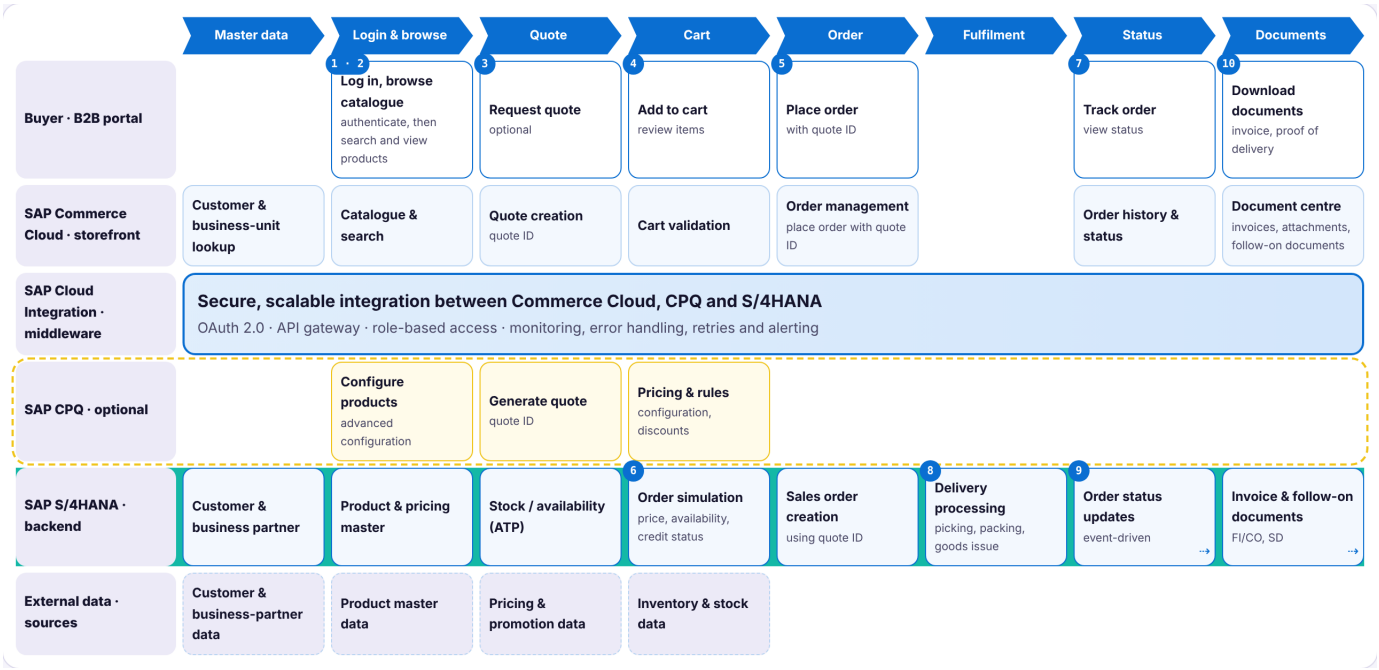
Architecture, integration patterns, order simulation, security, monitoring and the AI architecture for a global Commerce Cloud, CPQ and S/4HANA landscape.



Sappy's 30-second version

- S/4HANA owns customers, products, prices, stock and credit; Commerce Cloud consumes them through SAP Cloud Integration.
- Real-time where the user waits (login, simulation, order); events for status, delivery and documents.
- Every order carries an idempotency key and one correlation ID from portal to invoice.
- AI reads only what the user may read, and is switched on per role after data-quality gates.

Written for: Solution architect, Integration lead, SAP Commerce lead, CIO



SAP Commerce Cloud global order-to-cash architecture, redrawn by PGC Digital

10+
channels B2B customers now use regularly to interact with suppliers
McKinsey B2B Pulse, Dec 2021

32%
rank e-commerce the single most effective sales channel, vs 23% for in-person
McKinsey B2B Pulse, Dec 2021

3.7×
average return per $1 invested in generative AI, reported by surveyed leaders
IDC InfoBrief sponsored by Microsoft, Nov 2024

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Landscape and lanes

Six lanes, eight stages, ten numbered steps.

Buyer · B2B portal	Log in, browse catalogue; Request quote; Add to cart; Place order; Track order; Download documents
SAP Commerce Cloud · storefront	Customer & business-unit lookup; Catalogue & search; Quote creation; Cart validation; Order management; Order history & status; Document centre
SAP Cloud Integration · middleware	Secure, scalable integration between Commerce Cloud, CPQ and S/4HANA
SAP CPQ · optional	Configure products; Generate quote; Pricing & rules
SAP S/4HANA · backend	Customer & business partner; Product & pricing master; Stock / availability (ATP); Order simulation; Sales order creation; Delivery processing; Order status updates; Invoice & follow-on documents
External data · sources	Customer & business-partner data; Product master data; Pricing & promotion data; Inventory & stock data

Integration patterns

Choose the pattern by who is waiting.

Synchronous	Customer lookup, catalogue, order simulation (price, ATP, credit), order creation with quote ID.
Asynchronous	Order status, delivery, invoice and document updates as events.
Scheduled	Master-data replication of customers, products and prices, monitored.
Optional CPQ	Configuration, quote generation and pricing rules, returning a quote ID.

Order simulation, step by step

The call that makes the portal trustworthy.

1. Cart change	Debounce, then send items, customer and ship-to.
2. Simulate in S/4HANA	Price, availability and credit status, no order created.
3. Show the answer	Net price, delivery date and any credit block in the cart.
4. Place order	Create the sales order with the quote ID and an idempotency key.
5. Confirm	Return the S/4HANA order number; status follows by events.

Technical best practices

Eight rules for a landscape that survives peak season.

Simulate, do not duplicate.	Call S/4HANA order simulation for price, availability and credit at cart and checkout; cache only what is not customer-specific.
Synchronous where the user waits, asynchronous where they do not.	Login, simulation and order creation are real-time; status, delivery and document updates arrive as events.
Idempotent order creation.	Send a unique key with every order so retries never create a second sales order.
Replicate master data on a schedule you can monitor.	Customers, products and prices flow from S/4HANA through Cloud Integration, with alerts on failure.
Start from SAP’s standard integration content.	Use the delivered integration packages and extend them, instead of building interfaces from scratch.
Secure every hop.	OAuth 2.0, an API gateway, role-based access and no shared technical users.
Budget the latency.	Keep simulation responses fast enough for a cart; batch large carts; measure p95 per country.
Monitor end to end.	One correlation ID from the portal click to the invoice, with retries, a dead-letter store and alerting.

AI architecture

Fit to standard first, extend on SAP BTP only where needed.

Standard	SAP AI features delivered in the applications, licensed and consumed via AI Units.
Configure	Prompts, roles and data scope configured per persona.
Extend	Assistants on SAP BTP grounded in S/4HANA order, delivery and contract data.
Guardrails	Same authorisations as the user, logging, human approval for actions.

Run checklist

Before go-live in each country.

- ✓ Integration monitoring with alerts on replication, simulation and order failures
- ✓ p95 latency for simulation measured per country
- ✓ Retry, dead-letter store and replay tested
- ✓ Role-based access and technical users reviewed
- ✓ AI data scope and logging approved



Talk to the author



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