Intershop N

Omni-Channel Management

Intershop Progressive Web Application (PWA)	
PWA	The Intershop N comes with a PWA that can be used as template to start projects based on RESTful API. The feature set is defined in a separate feature list and does not contain the complete feature set of the Blue Print Stores.
Toolset	Web Developers can use the Intershop PWA to implement storefront applications based on the Intershop Commerce Management (ICM) WebShop REST API and/or 3rd Party Systems.
Templates	Templates contain the HTML that is rendered for the browser and displays the UI.
Services	Services implement business functionality using TypeScript. Services should have a single responsibility by encapsulating all functionality required in it. The API to a service should be as narrow as possible because services are used throughout the application. It is also possible to combine functionality of multiple services in another more general service if necessary.
Components	Components are small and (mostly) independent bridges between services and templates that prepare data for display in templates and collect input from the user to interact with services. Data Binding links the template with methods and properties from the component.
	The components handling the templates should only handle view logic and should not implement too much specific functionalities. If the component does more than just providing data for the template, it might be better to transfer this to service instances instead.
	Multiple components and their templates are then composed to pages.

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Intershop Progressive Web Application (PWA)	
Routes	Routes enable navigation from one view to the next as users perform application tasks. Routes can pass optional parameters along to the supporting view component that help it decide what specific content to present.
Models	Models are definitions of the data that are handled within the application.
Store	The store is the central representation of all data of the application.
State	The state is seen as the single source of truth for getting information of the current application state. All information should be held in the store. There is only one immutable state per application, which is composed of sub-states. To get information out of the state, selectors have to be used. Changing the state can only be done by dispatching actions.
Selectors	Selectors are used to retrieve information about the current state from the store. The selectors are grouped in a separate file. They always start the query from the root of the state tree and navigate to the required information. Selectors return Observables which can be held in containers and be bound to in templates.
Actions	Actions are used to alter the current state via reducers or trigger effects. Action creators are held in a separate file. The action class contains a type of the action and an optional payload. To alter the state synchronously, reducers have to be composed. To alter the state asynchronously, effects are used.
Reducers	Reducers alter the state synchronously. They take the previous state and an incoming action to compose a new state. This state is then published and all listening components react automatically to the new state information. Reducers should be simple operations which are easily testable.
Effects	Effects use incoming actions to trigger asynchronous tasks like querying REST resources. After successful or erroneous completion an effect might trigger another

Intershop Progressive Web Application (PWA)	
	action as a way to alter the current state of the application.
Schematics	Schematics allow for easy creation of code artifacts that automatically comply to the coding guidelines of the project, saving a lot of time for repetitive tasks and increasing code quality.
Client-side error tracking	JavaScript errors occurring during the usage of the Intershop Progressive Web App can be tracked via integration of a 3rd party tracking tool (Sentry).
Localization	Intershop Progressive Web App uses a mix of Angular's internationalization tools (i18n) and the internationalization library ngx-translate for localization.
Server-side rendering	With Angular Universal a static app version is generated that is easily searchable, linkable, and navigable without JavaScript. It also makes a site preview available since each URL returns a fully-rendered page.
Integrated Content Management	Content managed in Intershop Commerce Management can be integrated into the Intershop Progressive Web App. The content model and integration points in the storefront can be customized according to project-specific needs.
Deployment Scripts	Templates for Kubernetes Deployments and DevOps for Microsoft Azure are supplied as part of the project.

PWA Functional Scope	
Storefront	The Intershop Progressive Web App is an essential component of Intershop's new cloud strategy. Due to the clear separation of the Intershop Commerce Platform back-end from the visualization layer and the introduction of clearly defined synaptic commerce® APIs, partners and customers can design and customize the Intershop Storefront easier than ever before. Extensive knowledge of ISML and pipelines or the deployment of new layouts in the Intershop

PWA Functional Scope	
	Commerce Management System are no longer necessary.
Shopping Experience	
Catalog Browsing	Customers can browse categories by different means, like category navigation, breadcrumbs or category lists.
Product Browsing	Products can be browsed by category and filtered via search filters (supported filter types are dropdown and single or multi-select checkbox). Product lists support endless scrolling. Product lists can be sorted by different sorting criteria (relevance, price,...).
Search	Customers can search products by SKU or search terms found in product name, description or any other attribute that is indexed in the search index. Suggest search supports search term suggestions. Search results can be filtered via search filters (supported filter types are dropdown, single or multi-select swatch image and single or multi-select checkbox).
Product Display & Actions	The following product data can be displayed: • Multiple product images • Product prices • Inventory • Description • Shipping information • Product labels (New, Top Seller, Sale) • Product ratings • Product attachments The following actions can be performed with products: • Add to cart • Add to compare list • Add to quote • Add to wishlist

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PWA Functional Scope	
	• Add to order template • E-mail a friend • Print product page
Product Variations	Products with different variations are displayed in product lists, product detail pages, cart, wishlist, quote details and order history. The selection of the available options is supported via dropdown (swatch images are currently not supported). Advanced variation handling for complex products with a lot of variations can be enabled via Feature Toggle.
Product Bundles	Product bundles with all related bundled products are displayed on product detail pages and in the shopping cart.
Retail Sets	Retail sets with all related items are displayed on product detail pages and can be added to the cart all at once or individually.
Configurable Products	Support for configurable products via Tacton CPQ integration: • Configure product • Send Proposal Request to Tacton
Related Products	Related products of a certain product are displayed on product detail pages. The following types are supported: • Replacement • Cross-selling • Up-selling • Accessory • Follow-up • Different order unit • Spare parts
Promotions	Promotion messages and prices are displayed in product detail, product listing, cart and checkout pages.

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PWA Functional Scope	
Checkout	
Shopping Cart	The following data of the shopping cart is displayed: • Items with inventory information, delivery time, quantity, single price and total price • Subtotal, tax, shipping charges, payment costs and total of the cart • Applied promotions The following actions can be performed on the shopping cart: • Update quantity • Delete item • Update cart • Apply promotion code • Assign cost center • Add products to an order template • Quick order as B2B customer
Quick Order	B2B customers can add multiple products to the cart at once by entering product ID and quantity. By default, the user can add 5 products. Customers can extend the form with additional lines, each with input fields for product ID and quantity. Using the CSV upload, large numbers of products can be added in one step.
Requisitions	B2B customers can create a requisition, which starts an approval process.
Addresses	Invoice and shipping addresses can be selected, added and modified during checkout. Addresses can be managed in My Account as well.
Shipping	Shipping options including shipping costs, delivery times and descriptions of the options are displayed and can be selected during checkout.

PWA Functional Scope	

Payment	Payment options are displayed and can be selected during checkout.
	
	 The following payment methods are currently supported:
	
	 • Credit Card
	 • Direct Debit
	 • Online payment methods, e.g.,
	     o Alipay
	     o Bancontact
	     o eps
	     o iDEAL
	     o PayPal
	     o Sofort
	     o WeChat Pay
	     o Cybersource credit card
	     o Payone credit card
	 • Offline payment methods, e.g.,
	     o Invoice
	     o Cash on delivery
	     o Cash in advance
	
	 Payment details can be saved and saved payment details can be selected during checkout.

Review	All details of the order are displayed before order placement: • Invoice address • Shipping address • Shipping method • Payment method • Items with inventory information, delivery time, quantity, single price and total price

PWA Functional Scope	
	• Subtotal, tax, shipping charges, payment costs and total of the cart • In case a buyer or cost center approval is required, approval details are displayed The terms and conditions need to be accepted before placing an order.
Receipt	A summary of the order is displayed after placing an order, including: • Invoice address • Shipping address • Shipping method • Payment method • Items with inventory information, delivery time, quantity, single price and total price • Subtotal, tax, shipping charges, payment costs and total of the cart • Applied promotions • In case a buyer or cost center approval is required, approval details are displayed
Guest Checkout	Customers can perform a checkout without registering at the store.
OCI Punchout (B2B)	B2B customers can integrate the storefront into their procurement solution via OCI Punchout. The following features are supported: • OCI checkout: Log in to the storefront as an OCI Punchout user, browse visible parts of storefront, add products to cart, transfer cart back to caller • Product details: Log in to the storefront as an OCI Punchout user, display product details in the OCI Punchout format • Validate product: Log in to the storefront as an OCI Punchout user, automatically transfer

PWA Functional Scope	
	product details in the OCI Punchout format for given product id and quantity • Background search: Log in to the storefront as an OCI Punchout user, have all products displayed in the OCI Punchout format that match a given search query
cXML Punchout (B2B)	B2B customers can integrate the storefront into their procurement solution via cXML Punchout. The following features are supported: • cXML checkout: Log in to the storefront as a cXML Punchout user, browse visible parts of storefront, add products to cart, transfer cart back to caller
My Account	
Login & Registration	The following actions are supported: • Register as B2C customer (simple registration currently not supported) • Register as B2B customer • Log into your customer profile (B2C and B2B) • Forgot password
SSO Login	Login via an external identity provider is supported. Additional users can be invited and can create a new account via SSO. • B2C: The implementation is tested with Keycloak, Azure AD and Auth0. • B2B: The implementation is tested with Auth0.
My Account Dashboard	The My Account dashboard provides a navigation overview and the following widgets: • Order Widget • Quote Widget • Wish List Widget • Requisition Widget

PWA Functional Scope

	• Approval Widget • Order Template Widget
My Profile	Customers can view and edit the following profile data: • E-mail (changing e-mail currently supported without password check) • Password • Contact details
Order History	Customers can view their order history and order details of all orders.
My Requisitions	B2B customers can view their requisitions divided into the following areas: • Pending • Approved • Rejected
My Approvals	Buyer Approvers or Cost Center Managers of B2B organizations can view the requisitions that are supposed to be processed or are already processed divided into the following areas: • Waiting for your Approval • Approved Requisitions • Rejected Requisition Buyer Approvers or Cost Center Managers of B2B organizations can approve and reject requisitions.
My Quotes	Customers can view a list of their quotes and quote details of all quotes.
My Wish Lists	Customers can view a list of their wish lists and wish list details of all wish lists. Customers can create, edit and delete wish lists, set a preferred wish list, add and remove products from wish lists, move products between wish lists and add products to the cart from wish lists.

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PWA Functional Scope	
My Addresses	Addresses can be created and deleted. Preferred shipping and invoice addresses can be defined.
Saved Payment Information	Payment details can be saved during checkout and viewed and deleted in the My Account area.
Order Templates	Customers can view a list of their order templates and details of all order templates. Customers can create, edit and delete order templates, add and remove products from order templates, move products between order templates and add products to the cart from order templates.
Contact Us	Customers can send a request to customer service via a contact us form, specifying the reason or type of request, request details and contact information like phone number, e-mail address etc.
My Organization	
User Management	Administrators of B2B customer organizations can view, add, edit and delete company account users and manage roles and budget limits of users.
Punchout Configuration	Administrators of B2B customer organizations can view, add, edit and delete OCI or cXML Punchout users in order to automatically log in users to the storefront when opening a Punchout session.
Content Management	
Pages	The following pages of the storefront can be managed by the integrated Content Management System (CMS): • Homepage • Static Content Pages
Components	The following CMS components are supported within the storefront: • Carousel • Container • Enhanced Image Teaser

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PWA Functional Scope	
	• Freestyle HTML • Image • Product List (manual) • Product List (Category) • Product List (Filter) • Static Content Page Component (with configurable side panel navigation) • Landing Page Component • Text • Video
View Contexts	View contexts are supported in the storefront.
Personalized Content	Personalized content can be displayed specifically for different customer segments.
Localization	
Manage Translations	All texts of the PWA can be managed and translated via the Intershop Commerce Management back office. Text changes are immediately reflected within the PWA without the need for a deployment.
Analytics	
Tracking Integration	Analytics tools can be integrated via Google Tag Manager. Tracking of page visits via Google Analytics are supported.
Search Engine Optimization	
Page Title and Meta Tags	Page Title and Meta Tags are set in the PWA. For product and category pages the values provided via REST API are used.
SEO friendly localized URLs	SEO friendly localized URLs are supported for category pages, product list pages and product detail pages.
Privacy	
Cookie Information	Customers receive information on the use of cookies and can configure their cookie consent.

PWA Functional Scope	
Configuration	
Multi-Site Support	One storefront installation can be used to connect to several Intershop Commerce Management channels. Mapping rules can be defined for incoming URLs to map to respective REST endpoints.
Multi-System Support	One PWA installation can be connected to several Intershop Commerce Management systems, e.g. to edit and live clusters within different environments.
Multi-Theme Support	One storefront installation can contain several different themes which can be switched for a different appearance.
Hybrid Approach	It is possible to run the PWA in a hybrid mode with the Responsive Starter Store. Some parts of the storefront can run in the PWA and others in the Responsive Starter Store. Linking between the two storefront parts is supported as well as handover of users (authentication token) and baskets. It is possible to configure which features are supported by which storefront.
Feature Toggles	Storefront features can be activated and deactivated via configuration of feature toggles. The following features can be activated or deactivated: General: • Product Compare • Recently Viewed Products • Product Ratings B2C features: • Wish Lists • Guest Checkout B2B features: • B2B Customer Registration • Quoting • Advanced Variation Handling

PWA Functional Scope	
	• Quick Order • Order Templates Third-party integrations: • Tracking (Google Tag Manager) • Logging (Sentry) • Configurable Product (Tacton)

Brick and Mortar Store	
Store Management	The stores offered through the store finder wizard are created and managed by the channel order manager in the business management tool. The stores can be created manually or imported from an XML data source.
Pick-Up-In-Store	The software provides a special shipping method *Pick Up in Store*. This shipping method is intended to serve models in which orders are fulfilled via subsidiary stores.
Synaptic Commerce API	
Inventory Service	The Inventory Service retrieves the availability information of products to be displayed in the storefront. Using the managed service framework, a developer can easily connect to external services (e.g., warehouse, order management system).

Experience Management

Online Marketing	
Search Engine Optimization (SEO)	

Online Marketing	
Additional Catalog Navigation	Additional catalog navigation for search engines and users is available in the storefront. The catalog browsing functionality allows users to easier navigate through all catalog categories. In addition, the navigation is optimized for search engines and guarantees an optimum page ranking.
Meta Tags	The meta tags in Intershop Commerce Management storefront pages improve the search engine ranking and guarantee that all relevant pages are indexed by the search engine. The implemented tags indicate to the robot which pages to index, which pages not to index, which links to follow and which links not to follow. The usage of the related meta tags noindex and nofollow can be configured in the Intershop Commerce Management for products, categories and CMS-pages.
XML Sitemaps	Sitemap XML is a markup format that is used in site map files. Sitemap files inform search engine crawlers (like Google) about the pages that are present on a site, so the search engine can crawl your site accordingly. The Intershop Commerce Management feature "Product Data Feeds" can be used to create sitemaps. Upon sitemap creation, an XML sitemap index file is generated and points to the Google Sitemap XML files. A compressed XML sitemap file contains not more than 50,000 URLs and is not larger than 10 MB when uncompressed. When the number of 50,000 URLs is exceeded, a new XML file is created.
HTML Sitemaps	An HTML sitemap for search engines and users in the Storefront is available. The sitemap contains all category levels and is linked to the unpaged product list.
URL Rewriting	The URL-rewriting mechanism makes it possible to define search engine friendly URLs that the system internally maps onto the Intershop Commerce Management URLs. The Intershop Commerce Management supports two configurable types of rewritten URLs. The first URL type is a short version,

Online Marketing	
	consisting of domain, category and product name, e.g., *www.domain.de/subcategory/Product-Title*, and the second URL type shows the complete bread crumb including all subcategories, e.g., *www.domain.de/maincategory/subcategory/Product-Title*. The URL rewrite rules are individually configurable and made specific for sites, applications or languages (locales).
Rich Snippets for Products	A Commerce Manager that manages the channel preferences in the Intershop Commerce Management can enable the product rich snippets for the storefront. If enabled, the product rich snippets are available on the product detail page. The product rich snippets are compliant to the *schema.org* product data.
Language and regional URLs - hreflang	If enabled, this feature includes links for given storefront pages to all available languages (localizations). Currently the system supports product pages, catalog pages, content pages and the Store Finder page. This feature can be enabled/disabled on channel level.
Social Commerce	
Tell-a-friend	The customer can send an e-mail with a message containing a link to the product page. The message can be checked for curse words.
Product Ratings & Reviews	Products can be rated and annotated by customers. Ratings can be evaluated by customers as well as administrators. Administrators can reset rating at product level and are able to delete individual ratings.
User Ratings	Customers can rate products by awarding stars and comments in the storefront.
Review Management	The administrator can browse the ratings and annotations in the business management tool at product level. Individual ratings can be deleted.
Affiliate	

Online Marketing	
Affiliate Partner Management	The management of affiliate partners and time-based affiliate partner programs allows the identification of customers that enter the storefront of a sales channel via an affiliate partner web site. Such customers are automatically assigned to specific customer segments and can participate - for example - in marketing activities such as product promotions. The system provides statistics about how many leads were generated by running an affiliate partner program.
Affiliate Partner URL Generator	For each affiliate partner and affiliate partner program, the system generates a specific URL that can then be distributed to affiliate partner sites. On the basis of these URLs, users entering the storefront via an affiliate partner site are automatically assigned to a customer segment. Via their assignment to customer segments, affiliate partners and affiliate partner programs can be the target of promotions and discounts.
Affiliate Partner Address	For each affiliate partner, the sales channel's marketing manager can specify address data as the partner's contact information.
Affiliate Partner Program	Sales channel administrators can define time-limited partner programs that are conducted by affiliate partners. This enables a more fine-grained classification of users who enter the storefront of a sales channel via an affiliate partner web site.
Affiliate Statistics	For each affiliate partner and each affiliate partner program, the system maintains access statistics, which sales channel administrators can view in the business management tool. The statistics includes: - Total revenue - Total of orders - Number of registered users - Number of generated storefront hits (sessions)
E-Mail Marketing	

Online Marketing	
Abandoned Basket E-Mail	With an e-mail server enabled, dedicated e-mail messages to "shop-dropouts" can be send, i.e., customers who have left a basket without checking out.
Search Engine Marketing (SEM)	
Product Data Feed	Using the product data feed engine, it is possible to transmit all product data of your Web offerings to our Intershop Feed Engine or directly to various price and product search engines or affiliate networks via one central interface. The selected products can be exported as an XML file. In addition, it is possible to configure an FTP upload to partner networks, e.g., price search engines. This allows online shops to generate additional traffic for your site. Also the feature supports the generation of an Enfinity XML and Sitemap XML-File. The process can be triggered manually in the business management tool or via an automated job at regular intervals.
Data Feed Configuration	Creating a data feed basically comprises editing a data feed configuration. The configuration stores all properties that the internal export processes need to successfully complete a product data feed task. Multiple configurations can be created, stored and executed, as required by the systems that consume the data later on. Properties stored by configurations include: • General information, including name and ID as well as status (enabled/disable) • Data feed target • Schedule • Product assignment

Online Marketing	
Product Data Feed Target	Product data feed targets determine whether product data feeds export data into a file or transfer data to a target system. If exporting data to a file, the feed target also determines the formatting of the XML data resulting from the export process. If transferring data to a target system, the feed target is used to select the actual target system. The following targets are available by default: • Standard = standard product export, with the data formatted using Enfinity XML • Standard Transformed = Enfinity XML standard product export with attribute mapping rules to be applied before writing the result file • Sitemap XML = markup format for site map files to be evaluated by search engine crawlers • Feed Dynamix Data Feed = markup format used by the Feed Dynamix feed engine • Product RSS Feed = standardized RSS format export to be consumed by RSS aggregating applications • <Target System> = only available if the current system has been configured as a (data replication) source system and is connected to a target system
Product Data Feed Scheduling	Besides manual execution, product data feed processes can also be triggered using a scheduled job.
Add Products by Search	There are two ways to add products to a product data feed: assignment by search and assignment by browse. Using assignment by search, catalog managers perform a simple or advanced search across the channel repository to find the intended products.
Add Product by Browse	There are two ways to add products to a product data feed: assignment by search and assignment by browse. Using assignment by browse, catalog managers browse through the catalog structures to select all products belonging to a catalog or sub-

Online Marketing	
	category or to select individual products belonging to a category.
Landing Pages	Using the landing page feature, the user can simply install pages with different designs and content to increase the conversion rate. All pages are integrated in the same domain as well as the shop system. This guarantees that search engines do not consider the landing page contents as spam. In addition, a multi-variant testing with different personalized components is possible.
Short Links	The short link mechanism makes it possible to define short URLs that the system internally maps to complete the Intershop Commerce Management URLs (the target URL). Short links can be used to enable direct access to special storefront pages, such as pages containing special offers or products related to a certain topic. In fact, short links help to simplify the handling of long and complex URLs.
Link Management	Short link management involves creating and managing individual short links and link groups, as well as exporting and importing links.
Simple Link Search	Short links can be searched by a simple or advanced order search. The simple link search searches for a URL.
Advanced Link Search	Short links can be searched by a simple or advanced order search. The advanced link search allows for searching using the following criteria: source URL, target URL, server header (all/none/301/302), status (default, enabled), validity period (start date, end date).
Link Groups	Short links can be assigned to link groups to facilitate link management.
Synaptic Commerce API	
URL Export	The Intershop Commerce Management features a URL export. The export (to a simple CSV format) for a

Online Marketing	
	specified catalog category currently includes recursively all related URLs of the category, the sub-categories and the product detail pages below the specified catalog category. The feature is required to provide the currently used URLs for the Redirect Handling.
Link Import	A short link import for CSV and XML format is available in the Intershop Commerce Management. The link import together with the URL export now supports URL migration scenarios. This way, you can "migrate" all existing URLs to new URLs. The import/export functionality and the HTTP redirect handling guarantee that all acquired search engine page ranks remain stable.
HTTP Redirect Handling	The Intershop Commerce Management features a mechanism to transfer the generated page ranks from old URLs to new URLs. The HTTP redirect handling is the most efficient and bot-friendly strategy for web sites to define rules for redirecting to new links for every changed link in order to keep an acquired search engine page rank. For the new redirect handling mechanism to work, the Web adapter is extended to support the HTTP status codes for all error pages (404, 500) and the status codes for link migrations (302/301).
E-Mail Marketing	API for the handling of e-mail marketing activities, such as subscription to newsletters.

Search and Navigation	
Storefront Search Functionality	Storefronts support the Search Engine Adapter Framework, an interface to integrate external search engines. The Intershop Commerce Management integrates Apache Solr as the standard search option. The search engines provide full-text search, guided search and dynamic navigation features. Additionally support for sophisticated configuration details and search operations, including, among others, error

Search and Navigation	
	tolerance, thesaurus (synonyms), stop words, preprocessor (thesaurus for multiple-word phrases), filtered navigation and suggestions. Other available features are configurable ranking and relevance rules that allow for modifying search results according to your needs.
Full-Text Search	Customers can enter any search terms in the storefront. The administrator can configure the attributes that must be included in the search index.
Fault-tolerant Search	To ease the search processes, phonetic searches and automatic spelling correction are available.
Spell Checking	Search terms inserted by the customer in the storefront can be checked by configurable rules. In case of spelling errors, the system corrects the spelling and returns the results with the message "Did you mean …?"
Auto-Suggestions	The auto suggest/autocomplete functionality will produce possible search results based on the search phrase entered by the customer in real time. The channel administrator selects the attributes (e.g., product name, category name) to be included in the suggest search.
Synonym Search	Synonym definitions provide the ability for words to be associated in the system, allowing product name searches to use common language or jargon, yielding the appropriate results (e.g., "laptop" can be mapped to "notebook").
Searchandizing	Administrators can control the result set consideration of merchandising aspects (e.g., ranking of displayed products, search criteria weightings).
Search Redirects	Search redirects are intended to produce specific pages instead of actually performing the customer's search.

Search and Navigation	
Exclude from Search	In order to display specific products only in specific contexts (e.g., landing page, which is not in the navigation tree), products can be excluded from keyword search index. The products do not appear in search results.
Search Criteria Weighting	The ability to tune search relevance to allow a customer to get the most relevant search experience. For each attribute included in the search index the administrator can specify a weight-factor.
Navigation	
Filter Navigation	Search attributes selected as filters allow for filtering the search results in the storefront, so that the customers can narrow or drill down the result set.
Filter Configuration	Filters are configurable, e.g., sorting of filters and filter values, filter value ranges, explicit sorting of filter values, mapping of filter values to text or image values, global or category scope.
Filter Groups	Filters can be combined in order to be displayed as "filter groups". The groups can be labeled for user display, e.g., certain fashion product attributes can be grouped as "Fashion Styles".
Breadcrumb	Breadcrumbs help customers to keep track of their location within the storefront.
Filtered Landing Pages	Catalog managers can assign preconfigured search filters to categories that can be used, for example, to dynamically populate categories with products applying a defined sorting and ranking (e.g., a "Clearance" category based on a product attribute "ready for sale").
Sorting	
User-defined Search Result Sorting	Customers can sort search result sets by various attributes, like name ascending, name descending, price descending. The channel administrator

Search and Navigation	
	configures the sortable attributes, the direction and display labels.
Storefront Search Engine Management	
Search Engine Configuration	The channel administrator configures the search engine connection in the channel preferences.
Intra Day Search Index Update	The system allows for the ad-hoc update of the search index for a given channel/locale in the editing environment without propagating the changes to the live system. Updates to the live environment are performed separately by specific data replication processes.
Synaptic Commerce API	
Storefront RESTful API	
Search	Get a list of products based on selected product attributes or categories.
Service Integration API	
Search Engine Adapter Framework	A standardized search engine adapter framework provides for an easy integration of third-party search engines, like Apache Solr or Omikron FACT-Finder.

Campaign Management	
Administrate Campaigns	
Campaigns	Campaigns are used to structure content, such as promotions that are related to a specific marketing campaign that is run in a storefront. They are used to wrap promotions and content for target user groups

Campaign Management	
	in a defined time frame. Campaigns can be managed at channel level.
Simple Campaign Search	Campaigns can be searched by a simple or advanced order search. The simple search is based on the campaign name.
Advanced Campaign Search	Campaigns can be searched by a simple or advanced order search. The advanced search for campaign names, duration and status as well as campaign content by name (e.g., page variants, components and promotions).
Activation and Deactivation	All assigned objects of an enabled campaign like promotions with related content will be shown within the defined timeframe in the storefront. Objects of disabled campaigns are invisible in the storefront. Default is invisible.
Plan Campaigns	
Theme/Idea	The theme/idea of a Campaign can be described in the Intershop Commerce Management, so this context information about the goal of the campaign is available for all Intershop Commerce Management users.
Time frame	Each campaign must have a start date and time as well as end date and time. The status of a campaign overrules the time frame.
Target Group Assignment	Marketing managers can assign multiple customer segments and affiliates to a campaign to display the campaign only to this target group.
Content Assignment	Marketing managers can assign pages and components to the campaign in order to display this content to the assigned target groups.
Promotion Assignment	Marketing managers can assign promotions to the campaign in order to display this promotion to the assigned target groups. The activation period of the promotion must always be within the activation period of the campaign.

Campaign Management	
Exceecute Campaigns	**Description**
Campaign Publishing	The replication of campaigns replicates the campaign envelope with assigned content and/or promotion. The content and/or the promotion will be published automatically, so the assignments will be visible inside the campaign.

Promotion Engine	
Promotion	Promotions are a means to strengthen the relationships to existing customers, to win new customers or to promote the online sales channel. Each promotion can define discount(s) and determines a target group to which the discount is made available for a defined time. Promotions can be based on promotion codes, that target group members redeem by supplying the promotion code when placing an order. Furthermore, promotions can be associated with content components via content relations.
	Generally, there are different promotion types of different promotion levels available.
	Promotion Types:
	- General discount promotions - Promotions with discounts based on reusable promotion codes - Promotions with discounts based on unique promotion codes
	Promotion Levels:
	- Item - Order - Shipping costs - Gifts

Promotion Engine	
Promotion Overview	The promotion overview shows channel-specific promotion statistics and promotions grouped by their type. It helps marketing managers to identify open tasks and facilitates the promotion management. By default, the overview shows number of promotions, number of enabled and disabled promotions and total number of codes. Clicking an overview entry opens the advanced search, presenting the queried data (i.e., the overview element) in the result list. Adding further search criteria narrows the result.
Promotion Search	
Simple Promotion Search	Marketing managers of sales channels can search for promotions by name using the simple search.
Advanced Promotion Search	Marketing managers of sales channels can search for promotions using the advanced search. The search options include, among others, target groups, promotion codes, promotion types, activation and discount rules. This helps to get a better overview of current and planned promotions.
Promotion Management	
Activation Period	Marketing managers can determine the activation period (start and end date and time). If the promotion is assigned to a campaign the promotion can use the activation period of the campaign.
Discount Rules	Discount rules determine the benefit offered to the members of the promotion's target group. Each discount rule specifies a condition and an action to be triggered in case the condition has been met. Managing discount rules involves creating, editing (if necessary) and deleting discount rules.

intershop®

Promotion Engine	
Condition Types	Marketing managers can create only one discount for one promotion, selecting one of the following condition types at different levels: • No condition Customer level: • First purchase • First purchase this month • First purchase since date Item level: • Item included or excluded • Minimum number of included items • Minimum price of included items • Minimum total purchase amount of included items • Shipping method is • Shipping region is Order level: • Minimum number of items • Minimum order value • Payment method is • Shipping method is • Shipping region is Time Level: • Promotion activation time Cashback level: • Cashback earning Depending on the chosen type, the marketing manager selects products, categories or classification catalogs or defines values to complete the condition definition.

Promotion Engine	
Discount Action	After selecting the condition type, marketing managers define the discount action and calculation method (e.g., base cart price, discounted price). Each condition type has its own set of actions. The following types of discounts are available: • Percentage discount on products or orders • Fixed amount discount on products or orders • Fixed price on products • Service discounts (e.g., "free shipping" based on a percentage discount, fixed amount discount, fixed price) on orders • Add visible or hidden gift in the shopping cart • Cashback discount on orders
Multiple Promotion Handling	Marketing managers can configure the combinability of promotions, selecting one of the following options: • Can be combined • Cannot be combined • Can be combined with specific promotion types (e.g., order percentage off, shipping value off)
Inclusions and exclusions by product attributes and categories	Products and categories can be included or excluded from a promotion by configuration of the discount rule. Therefore the promotion manager can browse through or search for products and categories.
Promotion Code Deactivation	Quick possibility to deactivate a mass of defined promotion codes manually by multiple input fields.
Dynamic Up-Selling Messaging	Based on the minimum order value or the numbers of items in the cart an up-selling

Promotion Engine	
	message can be displayed in context of a promotion.
Ad Hoc Publishing	In addition to the regular data replication a promotion can be published ad hoc to the target system manually.
Application-specific Promotions	Promotions can be associated to applications in order to offer different promotions in different storefronts.
Promotion Budget	A promotion can have a defined budget and will be deactivated automatically if the budget was consumed. The promotion manager will be informed about the budget status by e-mail to control the promotion. The budget can be controlled by source (e.g., cost centers).
Promotion Codes	Promotions can either just define a discount (promotion type: Discount), or they can be based on promotion codes. Two basic code types are available, unique promotion codes and reusable promotion codes, which are distributed to the target group. Storefront users can redeem promotion codes during the order check-out process by supplying a valid code. The expiration date determines until when a promotion code can be redeemed.
Promotion Code Generation	Promotion codes can be created manually and with a configurable bulk operation (e.g., length, prefix, count of codes, list of character combinations to be excluded).
Reusable Promotion Codes	Reusable codes can be redeemed by any member of the target group. Upon creating reusable codes, marketing managers define the code, the expiration date and the number of reuses per code and/or per user.
Unique Promotion Codes	Unique promotion codes have a specific number of code instances. Unique codes can be transferable or non-transferable. Transferable codes can be redeemed by any user who is able to provide the promotion code. It is up to the online marketing manager to make sure the

Promotion Engine	
	promotion code is distributed to the intended target audience of the promotion. With non-transferable codes, each code is bound to the user or user group for which it has been generated. Each user has to use the code generated for his account by the system. When defining a unique code, the channel administrator defines the maximum number of codes that can be generated. With respect to unique promotion code generation, two options are available: • Manual Generation: The system generates the maximum number of codes immediately. The channel administrator can then distribute the codes to the members of the respective target group. • Event-Based Generation: The generation of a code instance is triggered by a certain event, including registration and first order.
Promotion Code Groups	A promotion code group includes promotion codes, which are assigned indirectly through the promotion code group to the promotion campaign.
Target Group	A promotion can be targeted to one or more target groups. In channels, the target group of a promotion can be a special customer segment (for example, all recurring customers) or customers individually selected from the pool of users registered with the sales channel. Promotions can also be targeted at customer segments associated with affiliate partners or affiliate partner programs.
Content Personalization	Promotions can be associated with content components. Hence, promotions constitute an instrument for content personalization. Creating promotions that specify only target groups and associated content components (i.e., promotions without discounts) enables shop operators to publish target group-specific content.

Promotion Engine	
General Discount Promotion	A discount promotion is not based on promotion codes. The defined discount is applied within the activation period to the target group members without prompting any further information. The marketing manager can define the main properties like name, description, currency and activation time of the promotion.
Synaptic Commerce API	
Import & Export	
Unique Promotion Code Export/Import	Marketing managers of sales channels can import and export promotion codes. Imports are mapped to existing promotion code groups. The supported export and import file type is CSV. The supported import modes include Initial and Delete.
Promotion Code Group Import / Export	Marketing managers of sales channels can import and export promotion code groups. The supported export and import file type is XML. The supported import modes include Initial, Replace, Update, Ignore, Delete and Omit.
Promotion Import / Export	Marketing managers of sales channels can import and export promotions. The supported export and import file type is XML which contains all appropriate configuration like single code, messaging, inclusion, discount rule and timing parameters associated with each promotion. The supported import modes include Initial, Replace, Update, Ignore, Delete and Omit.
Promotion Export Scheduling	A promotion manager can schedule a job to export promotions. The schedule can be configured to run once or in recurring intervals. Recurring intervals can be minutes, hours, days, months, years in a specified time period on specified weekdays at clock time.
Storefront RESTful API	

Promotion Engine	
Promotions	A promotion list (contains promotion identification numbers) can be requested by product and store level. Promotion details can be requested by promotion identification number which facilitates the external system ability to present products with promotions.

Product Recommendations	
Product Recommendation	Storefronts support product recommendations through the integration of external recommendation engines. The features include: • User-specific recommendations based on basket content • User-specific recommendations based on purchase history • Product recommendations based on the current browsing activities • Product recommendations based on other users' purchase history • Recommendations based on top sellers per category • Recommendations based on search results • Landing page optimization based on referrer URLs or affiliate information Specific recommendation components are provided to allow content editors to place and configure product recommendations like any other content component using the storefront editing features. The functionality may vary depending on the used recommendation engine, which can be defined per storefront site.
Product Highlighting	

Product Recommendations	
Hot Deal Products	Products can be marked as hot deals. They are presented to customers in a specific category.
Featured Products	Products can be marked as featured products. They are presented to customers on the homepage of the sales channel.
Recently Viewed Items	Recently viewed Items help the decision-making process for indecisive customers. The feature also aids in navigation because customers can return to recently viewed items (e.g. products, categories, search terms) with one click. The administrator can configure whether the recently viewed items are stored encrypted or not in the appropriate cookie. Furthermore the expiration of tracked items (e.g., after session expiration, never, defined time) can be configured.
Recently Viewed Products	The customers can return to recently viewed products with one click. The administrator can configure how many products will be displayed.
Recently Viewed Categories	The customers can return to recently viewed categories with one click. The administrator can configure how many categories will be displayed.
Recently Searched Terms	The customers return to recently searched terms with one click. The administrator can configure how many search terms will be displayed.
Product Notification Agents	The Notification Agent can be used by customers to receive an email if the price of a product drops to a specific amount or if a out-of-stock product is available again.
Back-in-Stock Notification Agent	A registered customer can activate the back-in-stock notification. The customer is informed automatically by email when the product is back in stock. In "my account" the customer can manage the notifications.

Product Recommendations	
Product Comparison	Customers can compare a selection of products based on their attributes. The comparison result is displayed in a comparison table.
Recommendation Framework	
Multiple Recommendation Engines	Via the managed service framework the administrator of sales channel can activate any number of recommendation engines per channel.
Synaptic Commerce API	
Product Recommendation Data Feed	Recommendation data feeds can be considered a specific use case of product data feeds, intended to be sent to the configured recommendation engine (which, in turn, supplies the recommendation information to the Intershop Commerce Management storefront). Configuring recommendation data feeds includes defining the parameters "Currency" (to be included with the issued product data) and "Save Order Data" (specifies whether to include order data).
Product Recommendation Feed Scheduling	Besides manual execution, recommendation data feed processes can also be triggered using a scheduled job.
Event Driven Recommendation	Administrators can specify events (e.g., add to basket, view cart, view product) in the business management tool, which sends event data to any recommendation engines in parallel. Furthermore one recommendation engine can be defined, which provides appropriate recommendations.

Web Content Management	
Layout Concepts	
Layout Elements	Content managers assemble and structure pages intended to be presented to the customer based on various content assets like page variants, slots, includes, components.
Pages	A page can be conceived of as an "entry point" to the storefront. Pages must have assigned at least one and can have assigned multiple page variants. There are several implementations of pages, including: • Product pages: are assigned to products, and only their associated page variants can be accessed and modified • Category pages: are assigned to categories, and only their associated page variants can be accessed and modified • System pages: constitute "functional" pages like basket, checkout or profile pages; are development artifacts, i.e., cannot be created or removed on run time • Content pages: constitute "static" pages like FAQ, T&C or imprint pages; are run time artifacts, i.e., can be created or removed without development and deployment efforts
Pages Variants	A page variant constitutes the "container" object that holds the actual content and must be assigned to a page. Individual page variants can be subject to personalization, time control, etc.
Slots	Slots indicate areas of a page variant or a component into which content (i.e., components) is "filled". Depending on the slot definition, two types of content associations are possible: • Implicit: dynamic content component assignments, i.e., based on implicit parameter and pipeline definitions, which involves developer and deployment effort

Web Content Management	
	• Explicit: static content component assignments, i.e., based on user-defined, explicit associations
Components	The components provide the actual content displayed on the final page. Components are of a specific component type, which defines the structure (slots) and any parameters (e.g., a link to a product or an image) required for rendering the component.
Includes	Includes can be conceived of as an "entry point" for individual components. There are two types of includes: • System-managed includes: are development artifacts and thus, their life cycle is completely managed by the system; on run time, users can only configure and assign components to them • User-generated includes: constitute a means to define reusable sets of "display configurations" for business objects; can currently be created by catalog managers in the context of catalog categories and products to allow for defining specific "views"
Page Templates	Page templates constitute page variant "models". A page template is based on a variant type, thus defining the structure and rendering parameters for the page variants derived from the template. Page templates can be "pre-filled" with components (which cannot be modified in derived page variants) and can hold placeholders.
Component Templates	Component templates constitute component "models". A component template is based on a component type, thus defining the structure and rendering parameters for the components derived from the template. Component templates can be "pre-filled" with other components (which cannot be modified in derived components) and can, if allowed by the type, hold placeholders.

Web Content Management	
Placeholders	Placeholders define editable areas in page variants or components that are derived from templates. If provided by their corresponding types, page or component templates can "propagate" their slots to their derived page variants or components via placeholders.
Management	
Global Organization Content	Content can be managed globally on organization level in a master repository and can be shared with channels and applications.
Content Sharing	All content assets of the master repository of the sales organization operating the channel can be shared with a shop (sales channel). Furthermore, content that is available in the sales channel (be it shared master content or channel content) can be shared with an application of this channel.
Channel Content	Content can be managed on channel level. Shared content from the master repository can be accessed and modified for the channel. Via sharing, channel content becomes accessible for applications.
Application Content	Content can be managed on application level. If content is created in an application it is only available in this application. Content that is shared from the master repository of the sales organization or from the sales channel is accessible in context of this application and can be used or modified here.
Page Management	Content editors use the Page Manager to get an overview of all pages, which allows them to create new pages as well as to easily access page editing functionality.
Page Search / Filtering	Content editors can search for the name or ID of pages of a specific type or with a specific label. If necessary, the search can be narrowed to find pages with specific attributes, parameters, or publishing periods using the advanced search.

Web Content Management	
Page Structure / Assignments	Content editors can view and modify the current site's logical page structure using the Page Manager's tree view. Using the Page Variants tab of the page detail view, content editors can view and modify the page variant assignments of this page.
Page Details	Using the page detail view, content editors can access the following page details: • Content: displays the configurable parameters and the content of the first assigned page variant • Page Variants: lists all page variants assigned to this page • Subpages: lists all assigned child pages • Properties: displays general page settings like locale, name, ID, parent, type • Labels: lists all labels assigned to the page
Page Variant Management	Content editors use the Page Variant Manager to get an overview of all page variants, which allows them to create new page variants as well as to easily access page variant editing functionality.
Page Variant Search / Filtering	Content editors can search for the name or content of page variants of a specific type. If necessary, the search can be narrowed to find page variants with specific attributes, parameters, slots, publishing periods or object assignments using the advanced search, for example, to find page variants with empty slots at a certain time.
Page Variant Assignments	Using the Assignments tab of the page variant detail view, content editors can view and modify the assignments of this page variant to pages.
Page Variant Details	Using the page variant detail view, content editors can access the following page variant details:

Web Content Management	
	• Content: displays the configurable parameters and the content components assigned to the page variant • Assignments: lists the assignments of this page variant to pages • Properties: displays general page variant settings like locale, name, ID, template, publishing status and period • Labels: lists all labels assigned to the page variant
Component Management	Content editors use the Component Manager to get an overview of all components, which allows them to create new components as well as to easily access component editing functionality.
Component Search / Filtering	Content editors can search for the name or content of components of a specific type. If necessary, the search can be narrowed to find components with specific attributes, parameters, slots, publishing periods or object assignments using the advanced search.
Component Assignments	Using the Assignments tab of the component detail view, content editors can view and modify the assignments of this component to page variants, components, includes, page templates or component templates.
Component Details	Using the component detail view, content editors can access the following component details: • Content: displays the configurable parameters and the content components assigned to the component • Assignments: lists the assignment of the component to page variants, components, includes, page templates or component templates

Web Content Management	
	• Properties: displays general component settings like locale, name, ID, template, publishing status and period • Labels: lists all labels assigned to the component
Include Management	Content editors use the Include Manager to get an overview of all includes, which allows them to easily include editing functionality.
Include Search / Filtering	Content editors can search for the name or ID of includes of a specific type or with a specific label. If necessary, the search can be narrowed to find includes with specific attributes, parameters, or publishing periods using the advanced search.
Include Assignments	Using the Components tab of the include detail view, content editors can view and modify the component assignments of this include.
Include Details	Using the include detail view, content editors can access the following include details: • Content: displays the configurable parameters and the content of the first assigned component • Components: lists all components assigned to this include • Properties: displays general include settings like locale, name, ID, type • Labels: lists all labels assigned to the include
Content Asset Import & Export	Content editors can either export the complete set of content assets or limit the export scope to a selected content asset type (pages, includes, page templates, component templates, page variants, components). In addition, it is possible to choose to export the content into either an XML file or an internally structured ZIP archive. Audit information can optionally be added to export files. This information can be used to generate diff

Web Content Management	
	reports as a basis for conflict handling when merging content between different systems.
Completeness Check	The content editor can check the completeness of all manageable CMS objects regarding existence of mandatory configuration parameters. It is possible to create a report for a specific time frame that shows how many and which objects with missing mandatory parameters are active during this time.
Content Locking	Before editing content assets like pages, page variants, components, a content editor must explicitly lock the asset. This prevents conflicts due to parallel editing of the same content asset by different content editors.
Labeling	The system administrator can configure, search, review and export/save a report of user-based activities.
Label Searching	Labeled objects can be searched by the advanced search.

Media Asset Management	
Product Image Management	Sales organization administrators can configure the product images that will be available for the possibly multiple product views in the storefront, like, for example, catalog list view, detail view or cart view. This includes image views (e.g., front, side, back), image types (e.g., S, M L, XL) and image sets (combinations of image views and image types). Image sets can then easily be applied to product classifications or used by accordingly set up content components.
Product Attachments	Administrators of channels can attach product-related content (for example a product specification) to their products. Those attachments can be uploaded and stored in a content folder.

Content Validation	
Content Editing and Preview	
Design View	Pages and components can easily be edited and managed directly from the storefront preview. The structure of components is defined by component types. Each component type has its own editing dialog to edit components directly from the storefront preview or in the business management tool.
Scheduled Page Changes	In order to support storefront design and content modifications, content editors can schedule the publishing and visibility of page variants in different contexts within the storefront.
Publishing Period	Content editors can set the publishing status (published or not) and define a publishing period for each page variant or component.
Visibility Period	Content editors can set the visibility period of page variants and components depending on a given context.
Time based preview	It is possible to preview the site with a date in the future. Categories, Product Pages will be previewed in context of date, time, currency, language, screen resolution, customer group and price list.

Product Information

Product Data Management	
Product Management	Channels can have nearly an unlimited number of products. Products have standard attributes, which can be extended by custom attributes. All product attributes can be localized in multiple languages, including languages with multi-byte encoding. Products can be set online for a definable time and have an availability status.
Product Overview	The Product Overview shows channel-specific product statistics and product status reports. It helps catalog managers to identify open tasks and

Product Data Management	
	facilitates the product management. The displayed information can be customized using the search framework.
Product Search	For text string searches, the Intershop Commerce Management supports common search expressions, irrespective of the search context or the search type, to trigger fuzzy, exact, wildcard, logical AND, logical OR and combined searches. Products can be searched by simple search or advanced search. Using the advanced search, catalog managers of channels can search for products by category, custom attributes, labels, general information like last modified date or author, etc. The advanced product search facilitates the management of large amounts of product data. The search can be restricted to products from selected catalogs or catalog categories. The search result can be sorted by various attributes such as "product price" or "product name." The classification search is a "special case" advanced search. It is intended to perform searches using specific classification attributes as search criteria.
Product History	All changes within a product repository are logged by the system and can be viewed within a product history. Changes are logged when a product is changed in the business management tool, during the product syndication and synchronization processes, or during a product batch process. The product history provides the following information about a product repository: (a) added products, (b) updated products, (c) deleted products. Detailed information is provided for an update operation, such as changed attributes and old and new values. Each product history entry includes the user and the modification date. Preferences are available to activate the product history feature and to configure the period of time changes are preserved in the product history. The history can be filtered by various criteria, such as user or date. Administrators of channels can access the product history for its

Product Data Management	
	own product repository as well as any of its source product repositories.
Product Online Status	Product status refers to the attributes online/offline and availability. • Products can be set online or offline. A product set offline is not visible in the storefront any longer. The product status can be set to apply always, from a future point in time onwards, or during a limited time interval. Product status definitions can be used via advanced search. • Availability indicates whether a product is in stock or not. Product status attributes can be used as advanced search parameters.
Inventory Service	The Inventory Service retrieves the availability information of products to be displayed in the storefront. Using the managed service framework, a developer can easily connect to external services (e.g., warehouse).
Product Locking	Before editing a product, a product manager must explicitly lock the product. This prevents conflicts due to parallel editing of the same product by different product managers. Catalog managers can also disable product locking. This setting is recommended for small sites with only one catalog manager in order to streamline the product management processes.
Product Approval	This feature enables an user with the permission "Catalog & Product Manager" to track and change the approval status for product data. User with the permission "Product Approver" can approve products with changed fields. The full mass data replication takes the approval status into account. Only approved products are replicated.

Product Data Management	
Display	The approval status is displayed on the product detail page, in the product search and in the widget "Product Approval Status".
	The user can search for the status in the advanced product search and in the widget "Product Approval Status".
Approval Workflow	The status "Edit", "In Review" and "Approved" are available. The approval status can be changed for the respective product at the product detail page and with bulk actions starting from product search and labels for a selection of products.
	Users with the permission "Catalog & Product Manager" can change the status from "Edit" to "In Review" and from "In Review" as well as "Approved" back to "Edit".
	Users with the permission "Product Approver" can change the status from "In Review" to "Approved" and from "In Review" as well as "Approved" back to "Edit".
	The user can enter a reason, if he changes the status back to "Edit" manually.
	If the product data were changed manually without changing the approval status manually or if the product data were changed by the product import or with bulk actions, the approval status can be changed by a job back to "Edit". The job takes changes in the standard, custom and variation attributes into account.
Configuration	Changes of the product data can be tracked and approved at channel level. This feature can be enabled/disabled on channel level.
Labeling	Labels provide a convenient means to group objects, in order to perform certain operations on these objects. Labels facilitate the execution of recurring operations, or operations that need to be applied to a large set of objects. Once labels have been

Product Data Management	
	created, they can be assigned to products, catalogs and categories.
Label Searching	Labeled objects can be searched by the advanced search.
Product Label Action	For labels that have been assigned to one or more objects, business management tool operators can select various actions (depending on the object type) to be performed on these objects. Actions for labeled products include: • Create, update or delete product custom attribute • Update standard product attributes (product status, availability) • Copy or delete products • Assign products to catalog or classification categories • Assign/unassign product or category links • Export products • Export or replicate products to live
Batch Processing	Mass-data actions for products can be processed in batch mode. A batch process can be applied on a list of products, e.g., a product search result or labeled products. Possible actions are: • Create, update or delete product custom attribute • Update standard product attributes (product status, availability) • Copy or delete products • Assign products to catalog or classification categories • Assign/unassign product or category links • Assign labels

Product Data Management	
	• Export or replicate products to live
Product Recycle Bin	Products are automatically moved to a recycle bin if they are deleted from the product repository of a channel. Products in the recycle bin can be restored or finally purged. A preference is available to activate or deactivate the recycle bin.
Product Variations	Channels can have an unlimited number of product variations. A product variation represents a product that is offered in multiple different variants. In particular, the offered variants share most of their attribute values, but are different at some of their attributes. For instance, a t-shirt might vary on the attributes "Size" and "Color". Each variant of a product variation can have a specific product SKU, price or other attributes such as images and specifications. In the storefront, all variants of a product variation are shown in a list and can be filtered by customers.
Variation Types	Channels can create and manage variation types. A variation type represents a variable product attribute and defines the list of values. Variation types can be applied on a variation master to let the system automatically create variations for this master based on the defined values.
Product Combinations	
Bundles	Channels can have an unlimited number of product bundles. A product bundle represents a group of products that is offered to customers with its own ID and price. The bundled products might be product bundles themselves (to build bundles of bundles).
Retail Sets	A retail set represents a group of related products. A retail set has similar characteristics as a usual product bundle, as a name, a description, and one or more category assignments. Depending on the storefront implementation, a retail set can be ordered with a single click, or the grouped products are to be ordered individually.

Product Data Management	
Warranty	
Warranty Management	Channel administrators can activate or deactivate warranties for their channel.
Warranty Products	Warranties constitute special products with specific properties such as cannot be individually shipped or no inventory. Warranties are grouped in a dedicated system classification category, which propagates the corresponding properties to these products when establishing the assignment relation. As warranties are intended to be sold in combination with "real" products only, they feature specific pricing options, like fixed price, percentage and scaled price. Channel catalog managers combine products with warranty products using the specific "Warranty" product link. If configured accordingly, the available warranties are displayed on the storefront's product detail page.
Product Attributes	The Intershop Commerce Management supports two attribute types: standard attributes and custom attributes. Standard attributes apply to all products. Custom attributes can be used to define attributes specific to a certain product. Moreover, custom attributes are used to enable implicit product binding. Product attributes can be localized. Localizable attributes define attribute values relative to a locale.
Product Attribute Group	The system allows the management of a meta-model for product attributes. The meta-model can be used to define localized display names for product attributes and to group product attributes. It is possible to add an attribute to multiple attribute groups, and to define different attribute names in different attribute groups for the same product attribute. The attribute meta-model is specific for the product repository of a channel and can be used for standard product attributes as well as custom product attributes. Usage scenarios of the product attribute meta-model are the definition of order-required attributes, product syndication rules for

Product Data Management	
	attribute groups, or tailored attribute lists in storefronts.
Standard Product Attributes	Standard attributes apply to all products.
Custom Product Attributes	Custom attributes can be used to define attributes specific to a certain product. Moreover, custom attributes are used to enable implicit product binding. Product attributes can be localized. Localizable attributes define attribute values relative to a locale.
Product Binding	Product binding refers to the assignment of a product to a catalog category. Via product binding, products become part of a catalog. Product binding can be done either explicitly, i.e. manually when managing the product, or implicitly. Implicit product binding makes it possible to automate product-to-category assignments on the basis of a common, definable attribute-value pair.
Product Sharing	In addition to product syndication, the Intershop Commerce Management supports a mechanism to deliver product information from a central product repository to various channels. A typical "push" scenario comprises the sharing of products from a primary sales organization to several shops. In most cases, product information and shops are managed centrally to reduce management and maintenance efforts. In this respect, it is easier to push the products into the shop repositories than for each shop to separately pull the information. Checking product information and selecting products to be sold individually in the channel is no longer required in most cases. As the product data is no longer copied, the sharing functionality decreases redundancies and considerably improves the performance.
Product Repositories	Each shop (sales channel) has its own, specific channel product repository.

Product Data Management	
Outbound Product Sharing	Via outbound product sharing, sales or partner organizations can distribute large numbers of master products to sales channels. The products are not copied to the target channels but remain in the parent organization's master repository. For every sharing relation, i.e., for every assigned channel, the parent organization defines the scope of products to be shared by search or browse operations.
Inbound Product Sharing	Using the inbound product sharing functionality, channels can decide whether to activate all or only a selected set of the shared master products.
Change Tracking	Shared products can be modified in the channel. Differences (added product data, updated product data) between source and shared products are automatically tracked by the system and can be derived if required.
Sharing by Manufacturer Aliases / Categories	In the product sharing context, organizations can specify new manufacturer names intended to represent one or more actual manufacturers. These manufacturer aliases ease the handling of multiple manufacturers that, based on their offering, can be grouped, or manufacturers that appear with more than one spelling, for example. Aliases and categories can be used to share products.
Product Syndication	The channel product repository of a sales channel can have products that are derived from the product repository of the sales organization that operates the channel. Product data is inherited based on mapping rules. The product data of the original products and the derived products are kept in synch via synchronization rules. If the original product changes, the change appears in a change tracking list. The product manager can view detailed information about the differences between the derived and the original product and synchronize all or selected products.
Syndication by Search	There are two ways to derive products from other repositories: syndication by search and syndication

Product Data Management	
	by browse. Using syndication by search, catalog managers perform a simple or advanced search across all available repositories to find the intended products.
Syndication by Browse	There are two ways to derive products from other repositories: syndication by search and syndication by browse. Using syndication by browse, catalog managers browse through the catalog structures to select all products belonging to a catalog or sub-category or to select individual products belonging to a category.
Syndication with Mapping Rules	Product syndication requires the mapping of attributes (standard product attributes, catalog assignments, prices, etc.) of the original source product into attributes of the derived product. Catalog managers can define specific rule sets that control the conditions such as how to handle ID, attributes, attribute groups, category, classifications, attachments, assignments, price and links.
Product Synchronization	Synchronization ensures that derived products remain synchronized with their source products in case the sources are updated. Catalog managers can define individually for each source repository whether synchronization should be triggered manually in the business management tool, or via an automated job at regular intervals.
Change Tracking	Differences (added products, updated products, deleted products) between source and derived products are automatically tracked by the system. Catalog managers can view the modifications of the source product repositories.
Synaptic Commerce API	
Import & Export	

Product Data Management	
Product Import & Export	Products can be imported and exported. The following import and export formats are supported: • Enfinity XML • CSV • BMEcat The support for other import and export formats can be added in custom projects.
Storefront RESTful API	
Product and Category	Product data and attributes can be requested by different filters (e.g. by sub-category) via a RESTful API. Categories and navigation elements (e.g. top-level-navigation) also can be requested via a RESTful API. Different search options like facets, auto completion and sorting are available. Reviews for a product can be requested and created and compare lists can be managed via a RESTful API.

Product Lifecycle Management	
Product Lifecycle Management	In the business management tool, two special attributes are available to manage the product lifecycle: • The last order date defines the latest point in time at which a product can be ordered. The product remains visible in the storefront, but cannot be added to the basket anymore. • The end-of-life date has the same effect. It can be used for additional purposes, e.g., to indicate when support for a product expires. Product lifecycle definitions can also be used as advanced search parameters.

Product Relations	
Product Links	Products can link to/can be linked by other products and/or categories. For product links different link types are available.
Replacements	Replacement is used to offer similar products to customers. Replacement products can be shown when the requested product is currently out of stock.
Cross-Selling	Cross-Selling is used to offer related products. In the reference storefront, cross-selling products are shown on the shopping cart page, based on the products the buyer has currently in the shopping cart.
Up-Selling	Up-Selling is used to offer alternative products, e.g., similar products offered at a different price. In the reference storefront, up-selling products are shown on the product details page under the heading "Other User's Choice".
Accessory	Accessory is used to offer complementary products, such as a monitor for a desktop computer. In the reference storefront, accessories are shown on the product details page under the heading "Accessories".
Follow-Up	Follow-Up is used to offer follow-up versions of the product currently selected. In the reference business storefront, follow-up products are shown on the product details page under the heading "Newer Versions".
Different Order Unit	Different Order Unit refers to offer(s) of the same product sold in a different order unit. In the reference storefront, different order unit products are shown on the product details page under the heading "Also available as".
Spare Parts	Spare Parts is used to offer available spare parts for a product. In the reference storefront, spare parts are included on the product details page as links to the respective product details pages.
Gift Wraps, Gift Messages	Gift wraps and gift messages are used to offer available products of the specific types "gift wrap" and "gift message" for products in the shopping cart.

Product Relations	
Warranty	Warranty creates a warranty relation between the current product and a specific "warranty" product. If available, warranties are offered for products in the shopping cart.
Other Link Types	Other does not have any pre-defined semantics and is currently not used in the reference storefronts.

Pricing	
Pricing	Administrators of channels can define list prices in multiple currencies for their products. The list price is a simple, fixed price independent of the order quantity or a scaled price that depends on the order quantity.
	Customer-specific prices can be defined for selected business customers or customer segments. A customer-specific price can either be a fixed price or a scaled price.
	Optionally, a cost price can be defined for a product, again separately for each available currency on the system. In addition to list prices, channel administrators can define special price lists for channel products.
	Special price lists are used for the following main purposes:
	• Define scaled prices
	• Define customer-specific prices
	• Define time-limited prices
	• Define discount prices (as absolute value or percentage discount of list price)
	The channel taxation policy defines if product prices in the channel are net or gross prices. Prices can be imported from an XML/CSV-file and exported to an XML-File.
Sale Prices	The sale price is displayed on the product detail page. It is based on configurable price types. Price types

Pricing	
	(e.g., last offered price) can be added easily to price lists by developers. This provides for a high flexibility of price display options in the storefront.
List Prices	Each product has a list price. The list price is a simple, fixed price independent of the ordered product quantity. A list price can be defined separately for each currency available on the system. The list price serves as main reference for calculating other product prices, such as scaled prices within price lists.
Cost Prices	Optionally, a cost price can be defined for a product, separately for each available currency on the system. Administrators of channels can use this price to represent the cost which arises when procuring the product from a supplier or parent organization. Using the cost price as a basis, various scenarios are possible in which the list price of a product is derived from its cost price by adding a fixed or percentage surcharge, or by granting a discount. For example, the list price of a product could be the cost price plus 10% on top, representing the desired margin.
Special Prices	In addition to list prices, channel administrators can define special price lists for channel products. Special price lists are used for the following main purposes: • Define scaled prices • Define customer segment-specific prices • Define time-limited prices • Define discount prices (as absolute value or percentage discount of list price)

Taxation	
Product Tax Classes	Administrators of channels can assign a tax class to each of their products. Those tax classes are defined in the central administration. The tax class is used during the product selection and the order process to calculate the tax amount.

Taxation Policy	The administrator can determine whether product prices and other prices are treated as gross prices or as net prices individually for the channel.
Tax Calculation	The taxation of an order is calculated based on the tax classes assigned to the products and the tax jurisdiction derived from the customers billing address.

Product Completeness Check	
Product Completeness Check	The product completeness check is available on channel level. It helps product content editors to identify open tasks in regards to product quality. A configurable product assortment will be checked against a set of validation rules. In case of any violation the product status can be set to "incomplete".
Validation Rules	In order to check the completeness of the product content editors can define one or more validation rules. The following types of validation rules are available: • Check for missing standard attributes (also locale dependent) • Check for missing custom attributes • Check for missing image assignments • Check for missing category assignments (classification + catalog categories) • Check for missing standard prices (list/cost price + currency dependent) • Check for missing price list prices
Assortment	Validation rules can be applied to a product assortment. The product content editor can either

	select all products or all products of a selected category for verification.
Validation Result	The validation result is provided on multiple levels: • The validation result overview page as well as the product completeness widget include a clear and comprehensive summary • The validation result detail page includes a list of products failing a validation rule • The product detail page includes completeness status and list of problems

Catalog Management	
Assortment Structuring	
Sorting	
Adjustable Catalog Sorting	Catalog managers of a sales channel can define the sort order of storefront catalogs in the business management tool. The sort order and direction can be set for each catalog individually.
Adjustable Category Sorting	Administrators of channels can define in which order sub categories are sorted within catalogs and categories. Sub categories can be positioned manually in catalogs and categories. Furthermore, a sorting attribute and a sorting direction can be specified for each individual catalog or category for all categories that are not positioned explicitly. A preference allows the definition of a default category sorting attribute and a default sorting direction for the channel.
Adjustable Product Sorting	Administrators of channels can define in which order products are sorted within catalog categories and product bundles. Products can be positioned manually in categories and bundles.

Catalog Management	
	Furthermore, a sorting attribute and a sorting direction can be specified for each individual category for all products that are not positioned explicitly. A preference allows the definition of a default category sorting attribute and a default sorting direction for the channel.
Product and Catalog Presentation	Catalog managers can set up a different layout and/or structure for each catalog category and/or product. Customer-specific assortments can be defined.
Individual Category Presentation	Catalog managers can define one or more individual content views, i.e., pages and/or includes, for each catalog category.
Individual Product Presentation	Catalog managers can define one or more individual content views, i.e., pages and/or includes, for each product.
Catalog Views, Customer-Specific Assortments	Catalog managers can personalize the shop's assortment for customers and customer segments, i. e., showing or hiding specific products and/or categories selectively. This can either be done with static assignment (Catalog Views) or rule-based (Customer-Specific Assortments).
Catalogs	An administrator of a channel can set up one or more channel-specific product catalog structures. Product catalog structures can also be inherited from the sales organization that is operating the channel (a sales organization or a sales partner). The customers of a channel can browse products by using the product catalog structures specifically defined for this channel or via the product catalog structures inherited from the sales organization operating this channel.

Catalog Management		
	Local Catalogs	Local catalogs are channel catalogs, they are created and can be used only within their corresponding channel context.
	System Classification Catalogs	Products can be assigned to categories in a given system classification catalog to define specific product types (e.g., warranty, gift wrap). The product type determines how the product will be handled within the Intershop Commerce Management.
	Global Classification Catalogs	Classification catalogs have the same characteristics as ordinary product catalogs, but additionally provide functionality to pre-define the attributes of the products assigned to them (categories of classification catalogs represent "product types"). Central administrators can create, import and manage classification catalogs centrally. Classification catalogs created and set online globally for all sales organizations in the Intershop Organization Management. The sales organizations propagate them to their channels. The supported import file type is XML. The software provides default support for different classification catalog standards (e.g. eCl@ss, UN/SPSC, ETIM 6.0).
	Local Classification Catalogs	Catalog managers can create, import and manage several classification schemas and multiple versions of one classification type. Classifications support defining classification attributes to allow consistent attribute groups for all products within a classification category. In addition, catalog managers can use the classification search to identify products with incomplete attribute sets. Classifications can be managed on organization level, and can be shared to channels. The supported import file type is XML. The software provides default support for different classification catalog standards.

Catalog Management	
Catalog Online Status	Catalogs can be online or offline. An offline catalog is not visible to any users, except catalog administrators.
Categories	The shop manager can directly assign products to multiple product catalog categories.
Implicit Product Binding	Based on configurable attributes (e.g., color) products can be assigned to categories via batch job. The Dynamic Product Binding via Search Query Definition is able to assign products by adding multiple attribute-value-pairs to a category and is also used within other functionalities. It is available within the channels. The Dynamic Product Binding is already implemented within the channel and can be used to implicitly assign products to a category.
Explicit Product Binding	The shop manager can manually assign products to categories.
Catalog Sharing	Shared catalogs are master catalogs that are shared to one or more channels. These catalogs are then be accessed by the business partners that use these channels. Catalog sharing makes it possible to use pre-defined catalog structures across different channels.
Import / Export	
Catalog Import & Export	Product catalogs and classification catalogs can be imported and exported. The following import and export formats are supported: • Enfinity XML • CSV • BMEcat The support for other import and export formats can be added in custom projects.

PunchOut	
PunchOut	Intershop Commerce Management provides the capability to integrate with procurement systems. Therefore the buying organizations can integrate the storefront of a channel as an external catalog into their procurement system.
Open Catalog Interface (OCI)	Product catalog structures and products of the customer of a channel can be exposed to external systems via OCI, by creating an OCI-user. The OCI-user can browse the catalogs and add products to the shopping cart. The shopping cart can be transferred to the procurement system. The naming conventions for OCI version 4.0 and 5.0 are used for the transfer of the line items of the cart. The following additional functions are implemented: - Detailed information of a product or service - Validation of a product - Background search for products A customer can configure individual return values for OCI fields. OCI field configurations can be set by the administrator of the customer in the storefront. String formatting functions and placeholders for standard attributes are available for this purpose.
commerce eXtensible Markup Language (cXML)	Product catalog structures and products of the customer of a channel can be exposed to external systems via cXML, by creating an cXML-user for a customer. Intershop Commerce Management supports the following cXML protocol subset (cXML Version 1.2.049 and compatible): - PunchoutSetupRequest in order to allow initiation of punchout sessions - OrderRequest in order to allow the injection of orders from a procurement system The following properties can be configured per customer: - Unit of measurement definition - Locally of returned product data

Customer Management

Personalization	
One-To-One-Marketing	
Personalized Welcome Message	Addressing customers by their names can help to strengthen relationships with them. The registered customer will be welcomed with phrases like "Welcome Mr/Ms XY" or "How are you today, John Doe?" The Personalized Welcome Message can be shown on every page and can be implemented easily in the Design View.
Customer-Specific Catalogs	Catalog managers can create and manage catalog views for the storefront, showing or hiding specific categories or products. Catalog views can be assigned to customers, allowing business managers to set up customer-tailored product assortments.
Customer-Specific Price Lists	E-Commerce managers can manage customer specific prices via price lists.
User Preferences	Customers can configure in the front-end self service: • Default delivery address • Default payment method
Adoption of navigation to user preferences	Based on customer segments, customers will see different catalogs. The navigation will adapt automatically to that specific customer segment. Furthermore the function "recently viewed items" makes it more comfortable for customers to see article they were looking before (e.g., products, categories, search term).
One-To-Many-Marketing	
Standard Customer Segmentation Service	The Intershop Commerce Management provides an internal standard implementation of a managed customer segment service.

intershop

Personalization	
Customer Segments Management	Channel administrators can manage customer segments. Customers can be assigned to one or multiple customer segments. A set of implicit standard segments is provided: • Everyone • New Customers • Unregistered Customers • Registered Customers • Recurring Customers
Customer Segments Search	Customer segments can be searched via a simple search. The simple customer segment search supports name or ID as search criterion.
Customer-Segment-Specific Catalogs	Catalog managers can create and manage catalog views for the storefront, showing or hiding specific categories or products. Catalog views can be assigned to customer segments, allowing business managers to set up customer-tailored product assortments.
Customer-Segment-Specific Price Lists	The shop manager can define customer segment specific price lists.
Customer-Segment-Specific Shipping Methods	Sales channel administrators can configure customer segment-specific shipping methods using the shipping rule functionality.
Customer-Segment-Specific Payment Methods	Sales channel administrators can configure customer segment-specific payment methods. Merchants can control the risk of bad debts and can prevent frauds.
Customer-Segment-Specific Promotions	The promotion manager can assign customer segments to promotions indirectly using target groups. Content assigned to promotions will display to the specific customer segment.
Customer-Segment-Specific Content	Content can be assigned to different customer segments. This functionality is especially useful for marketing campaigns and promotions.

Personalization	
	Customer segments can only see content which is assigned for that specific campaign or promotion. The customers only see the relevant content.
Dynamic assignment of users to customer segments	Customers can automatically be assigned to specific customer segments. Such customer segments are e.g.: • New customers (all registered customers before they place their second order) • Recurring customers (customers which place their second order and above) • Registered customers (customers which are registered in your shop) • Students (customers which indicated during registration process that they are students) • Premium customers (customers which place orders more than four times a month)
Synaptic Commerce API	
Segmentation Service API	The Intershop Commerce Management provides a managed service API to get direct access to customer segments of 3rd party CRM, customer targeting and personalization systems. Through the managed service framework it is possible to assign multiple customer segment services at organization, channel and application level. The customer segments provided by those services can control the following marketing related features: promotions, price lists, A/B tests, catalog views.

Quotes	
Quotes	

Quotes	
Quote Request	A buyer can request a quote for a single product or a product list. A quote request can be created from a product detail page or the shopping cart overview. A comment area allows to add a reason for the request or an expectation for the quote.
Quote Creation	The account manager in the Commerce Management Tool can provide a quote with changed prices and a comment for the buyer.
Quote Usage	The buyer can find the response to his quote request in his my account area. She/he can accept the quote and add it to the cart or reject it. The negotiation can be continued by creating an new quote request based on an offered quote. Quote usage contradicts subscriptions. One usage excludes the other.
Synaptic Commerce	
Storefront REST API	REST calls to create, update and submit quote requests exist. The client application can request all quote details and add it to a cart or reject it. The REST-API allows either a quote in the cart or a subscription of the cart, not both together.

Contracts	
Contract Management	
Revenue based contracts	Account Managers are able to create revenue based contracts for their business customers, given a valid period of time, target revenue and customer specific prices. Ordered items are assigned automatically to related contracts based on best-price-strategy. Before the contract expires, the Account Manager can be notified by e-mail about the current status of the contract to get in contact with the business customer if needed.Business customers are informed about

	contracts and contract details in the My Account section.

Budget and Cost Center Management	
Cost Center Management	Administrators of customer organizations can create, edit and delete cost centers as well as assign cost center owner and buyers to them.Cost Centers can be activated and deactivated.
Cost Center Budgets	Total cost center budgets and buyer specific cost center budgets can be defined monthly, quarterly, yearly or fixed.
Cost Center Loading	Buyers, means registered and logged in users from customer, can purchase products and select a cost center for their order.
Cost Center Approval	The implemented workflow example covers a user-specific as well as cost center specific order approval.When an order is assigned to a cost center the approval from the cost center owner is required in adddtion to the user-specific order approval.The cost center owner receives in context of the order approval the information about already spent total cost center and user-specific cost center budget. Based on this the order can be approved or rejected. The reason for the rejection can be captured by a comment.The complete order approval (user based and cost center based) is implemented as a managed service for easy customization and integration of 3rd party systems.
Synaptic Commerce API	
Cost Object Management	Cost objects allow the customer to keep track of costs and as such are an important part of cost accounting. Cost objects like projects, products or services can be created, edited, deleted, activated and deactivated via REST API to enable customer organizations to assign orders to specific cost objects.

Order Templates	
Order Templates	Order templates are beneficial for the frequent purchasing of the same products. This way, a buyer does not have to browse the product catalog each time when ordering goods.
	There are several ways to create a new order template:
	• Creating an empty order template in my account
	• Creating an order template from a shopping cart with taking over all items
	• Creating an order template from a past order accessed via the "Order History" tab
	Further products can be added to existing order templates:
	• From a product detail page
	• From the shopping cart overview
	Order Templates can be managed in the my account area:
	• Delete templates
	• Rename templates
	• Delete items from template
	• Change quantity of items
	• Add template to cart

Customer Data Management	
Customer Management	
Customer Types	Channel administrators are able to manage customers of a specific type. There are two types of customers available:

Customer Data Management	
	• Individual customers • Business customers Individual customers are usually b2c customers, means an individual user with a private profile. A business customer represents a company with a company profile and one or more users of this company. Each user of a business customer can have their own profile.
Registered Customer	Channel administrators can manage customers. Customers can be added, modified, and deleted. Customers can manage their own personal profiles, including shipping and billing addresses.
Customer Addresses	Each registered customer has at least one address. This address cannot be deleted and is referred to as the customer's contact address. The customer can create an unlimited number of additional addresses as needed.
Password Retrieval E-Mail	Channel administrators can send password retrieval e-mails to private customers and users of a business customer.
Activation & Deactivation	Channel administrators can activate and deactivate customers and users of a business customer individually. Deactivated customers are not able to login into the system.
Non-Registered Customer	Non-registered private customers or users of a business customer are allowed to browse the product catalog and to add products to the shopping cart. Once they checkout the shopping cart, they must then either logon, register, or enter a shipping and billing address for that order.
Customer Registration Approval	Customer managers can enable a customer registration approval on channel level. This way, new customers can sign up but must be

Customer Data Management	
	explicitly approved for them to be able to log in and place orders in the storefront. Customer approval requests can be communicated per e-mail.
Customer Search	You can search for customers via a simple search or an advanced search. The advanced customer search supports customer ID, type, company name, user ID first name, last name, login, creation date and status as search criteria.
Customer Im- / Export	Customers and their assignment to customer segments can be imported and exported. The following formats are supported: Enfinity XML, CSV for export and CSV for import. The support for other import and export formats can be added in custom projects.
Customer Type-Specific Price Display	Customer managers can configure the price display by customer type, irrespective of the price setting in the channel. So individual customers can see gross prices, while business customers see net prices.
General Data Protection Regulation	In order to comply with GDPR requirements in regards to data portability and data deletion of personal data, it is possible to handle personal data requests.
Handling of Personal Data Requests	Customers can trigger requests to receive personal data or requests for data deletion either from the storefront My Account or the Contact Us page. Customer service representatives (CSR) can create new requests as well as handle requests via Intershop Commerce Management. Based on requests for data, all customer data can be exported in JSON format for a specific customer. Based on requests for deletion, all customer data can be deleted for a specific customer.

Customer Data Management	
Order Deletion	In case orders are exported to and archived in an external system (e.g., Order Management System, ERP) or the data for a specific customer in case of GDPR has to be deleted we introduced the order deletion feature.
Customer Self Service	
Authorization & Authentification	
Login	Registered private customer or users of a business customer can log into the system by entering their e-mail and password.
Self-Registration	Private customers can perform self-service registration. Business customers can register themselves as well providing their company contact informations like company name, industry and taxation id.
Password Reminder	The storefront includes mechanisms that enable private customers or users of a business customer to retrieve an e-mail-address or password that they may have forgotten.
Customer Preferences Handling	Customers can manage the preferences and data for payment, notifications, and addresses in the "My Account" section.
Customer Profile	Private customers and users of a business customer can change their e-mail and password, as well as name, birthday and preferred language.
Payment Settings	Customers can store their preferred payment methods in their profile.
Customer Addresses	Each registered customer has at least one address. This address cannot be deleted and is referred to as the customer's contact address. The private customer or users of a business customer can create an unlimited number of additional addresses as needed.

Customer Data Management	
Marketing and Service Permissions	Customers can manage their preferences regarding e-mail services offered by the shop.
Order Confirmation	Customers can activate or deactivate the order confirmation e-mail service.
Newsletter	Private customers or users of a business customer can activate or deactivate the newsletter service.
Customer Self Service	Customers can manage and check the status of items in various lists, like order history, list of products with notifications, wish list (for private customers only), product comparison list, gift certificate/gift card list in the "My Account" section.
Product Notifications List	In the "My Account" section, customers can manage product notifications like back-in-stock notifications.
Wish Lists	Registered customers are able to maintain a wish list and send it to other users per e-mail. Wish lists can be set to be searchable for others, conversely products on a wish list can set to be hidden for others. Products can be bought from a wish list by the owner or by the visitors of the wish list. Wish list owners can see if they purchased a product on their wish list or if it was purchased by another customer. Administrators can configure e-mail settings in the channel preferences.
Multiple Wishlist	Registered customers can create and maintain multiple wishlists.
Desired Quantity	Customers can specify a desired quantity for products on a wish list and configure preferences for desired quantities.
Add Product to Wishlist	In the storefront of the reference application, the product detail pages include a button for adding products to the wish list. From the wish

Customer Data Management	
	list, products can be added to the basket or be deleted.
Wishlist Visibility	Customers can hide the entire wish list from other users.
Product Visibility	Customers can hide individual products on their own wish lists from other users.
Invite User	Customers can invite other users to shop from their wish list.
Search Wishlist	Customers can search for public wishlists of other registered users. The supported search criteria include e-mail address, last name, name, or combinations of the attributes.
Configure E-Mail Preferences	An administrator can configure the e-mail from address, email subject and email templates in the channel preferences.
Gift Certificate / Gift Card Balance	Customers can view the status and the credit of all gift certificates / gift cards.
Order History	All orders are displayed in the order history overview with order number, date, total price and status. Customers can drill down into the order details to see ordered items and used addresses, payment methods, shipping methods, as well as prices, taxes, etc.
Printable Order Details	Customers can use a printer-friendly order detail view to produce a hard copy.
Order Tracking	Open and completed orders are stored in the order history of a customer. Customers use the order history to track the fulfillment status of their orders.
Order Cancellation	Customers can cancel orders.
Synaptic Commerce API	

Customer Data Management	
Storefront RESTful API	
Customer Self Service	Customers can be registered and customer profile information, e-mail settings and credentials can be managed via a RESTful API.

Addresses can be added, changed and deleted, wish lists and notifications can be managed, gift cards and certificates details can be requested via a RESTful API.

The store locator functionality is also accessible via a RESTful API. |

Transaction Management

Cart and Checkout	
Shopping Cart	Customers can select products and add them to a shopping cart. The line items of a shopping cart specify the products, order quantities, billing and shipping addresses, payment information and other relevant order information. The max. number of line items can be configured by the shop manager. Specific billing and shipping addresses can be defined for each line item. Customers can add comments to their orders. Purchase orders are created from shopping carts.
Mini Cart	Customers can access the mini cart from any page on the shopping site. The mini cart shows products recently added to the cart with their thumbnail image, description and price. The mini cart will also display the cart total including discounts (pre-shipping and tax). Customers can go to the detailed shopping cart page from here.
Subscriptions	Customers can subscribe to a cart for recurring orders. They have to enter at least a start date and a recurrence interval in days, weeks or years. Further they can enter an end date

Cart and Checkout	
	additionally. Recurring orders can be deactivated by the customer in his/her account and reactivated as long as a configured end date is not exceeded.
	Eligible payment methods can be restricted or enhanced for subscriptions in a property file for the channel setup, depending on the connector to the payment service provider. "Invoice" and "Direct Debit Transfer" are preconfigured.
Persistent Shopping Cart	The Intershop Commerce Management can restore abandoned carts automatically when the user returns to the shop. The administrator can configure the life time of abandoned carts for the shop.
Cart as PDF, E-mail	Customers can download the current shopping cart as pdf file. She/he is also able to share her/his current shopping cart as e-mail.
Checkout	
Accelerated Check Out	The customer is led directly to the order review page if all required information is given. If any data (e.g., billing address, default shipping method) is missing or the accelerated checkout is not configured for the application, the customer is led to the appropriate check out step.
Address and Personal Data	
Address Check Service	The validity of addresses can be checked using external services. Using the managed service framework, a developer can easily connect to external services (e.g., AddressDoctor).
Pick up in Store	If the shipping preference of the channel is configured to allow pick up in store, a store can be selected as shipping address during the checkout.
Shipping	

Cart and Checkout	
Multiple Ship-To Addresses	Customers can select a special ship-to address for every item in the cart. The shipping costs can be configured on ship-to address level. This feature can be switched off in the customer project in the database, maybe to connect ERP systems, which do not support multiple ship-to addresses in the interface. This leads to considerable restrictions in the functionality regarding configured fright classes, shipping methods, delivery regions and shipping rules. It is possible to get carts containing products, which can not be ordered together.
Shipping Costs	During the checkout process, customers can select one of the eligible shipping methods. The actual shipping costs are calculated based on the selected shipping cost configuration (e.g., value based, weight based, item count based or flat rate).
Special Shipping Instructions	For each shipping method, the e-commerce manager can configure whether the customer can insert a specific shipping instruction during the checkout or not.
Desired delivery date	A customer can add a desired delivery date to each line item. A simple check is performed to test if this date is a future date.
Gifting	
Gifting Management	The administrator can configure which combination of gifting features (gift wraps, gift messages, pack slip messages) are enabled for the channel. The maximum length for messages can be configured.
Gift Wraps	If the gift wrap option is offered, the customer can select for every item in the checkout process from multiple gift wrap styles. Each gift wrap style can have a cost associated to it.
Gift Messages	If the gift message option is offered, the customer can enter for every item in the checkout process a gift message. The customer

Cart and Checkout		
		can select from different message cards styles, which can have different prices.
	Pack slip Messages	Customers can enter free of charge a pack slip message for every shipping destination in the checkout process.
Payment		
	Multiple Payment Methods	Customers can redeem any number of gift cards in combination with any other payment method.
	Payment Method Sorting	The administrator of the channel can configure the rank in which the payment methods are displayed in the payment step within the check out.
	Payment Costs	Payment methods can be associated with a cost to be charged if the payment method is selected. Payment costs can be defined for any available currency.
Customer Confirmations		
	Terms & Conditions	Channel administrators can specify whether the terms and conditions must be explicitly confirmed by the customer upon checkout.
	Automatic Newsletter Opt-In	Channel administrators can specify whether the marketing mailing opt-in is automatically preselected upon checkout, i.e., whether the newsletter opt-in must be explicitly set by the customer.
In Stock Check		If an inventory service is enabled, the inventory status (availability) of a line item is checked again during the final step of the checkout process. If the line item is not available it will be removed from the order and the customer will be informed on the review page.
Order Calculation		

Cart and Checkout	
Basket Calculation Framework	The enhanced basket calculation framework allows developers to define rule sets for basket calculations that include prices, taxes, promotions, payment costs, shipping costs, geographical surcharges, duties, fees, gift cards and services (e.g., gift wraps, warranties).
Synaptic Commerce API	
Storefront RESTful API	
Shopping Cart & Checkout	Creating a shopping cart, as well as adding, updating and deleting shopping cart items can be done via a RESTful API. Shipping methods can be selected based on multiple shipping options. Shipping instructions can be created, and gift options are available. Payment methods can be requested and selected, and gift cards and certificates can be used. Different shipping and billing addresses can be checked. Finally, an order can be created via a RESTful API.
Service Integration API	
Order Status Import	The status for orders, items with payment and fulfillment status, can be imported and updated without order and item details.
Order Export	E-commerce managers can configure which order export formats and synchronization rules have to be used by the Intershop Commerce Management to keep in sync with external systems (e.g., enterprise resource planning system).
Predefined Order Export	A customized order export structure can be integrated as an enhanced export option. The available export types (like XML) can be defined using the order service framework.

Cart and Checkout	
Payment	The payment service framework and API allows an easy integration of third-party payment providers. Payment methods are enabled and configured via the managed service framework. The payment service framework supports a plugin concept that allows for using various payment packages from different providers. The system supports some additional payment methods and optional payment packages, but it is also possible to integrate completely new payment packages.
Gift Card	API to create, update and void gift cards.
Address Validation	API to check addresses and get address suggestions.
Taxation	This API returns tax related information for the given price and the specified subject. The subject may be any value or business object type.
Availability	API to retrieve and book the inventory status of products.

Shipping	
Shipping Configuration Management	An administrator of a sales channel can set up one or more channel-specific shipping methods. For each shipping method, a shipping cost amount can be defined. Furthermore, shipping can be defined as free if the order amount exceeds a specific threshold. Shipping methods can be enabled or disabled. During the order process, customers can select one of the enabled shipping methods. The actual shipping costs are calculated based on the selected shipping method and configured shipping rules.
Shipping Methods	The e-commerce manager can create, edit and manage shipping methods, including the corresponding shipping charges, validity periods

Shipping	
	and sequence numbers to control the display order in the storefront.
Destination Regions	The e-commerce manager can create, edit and manage destination regions, which can be used for setting up available shipping methods, shipping charges and shipping restrictions.
Freight Classes	The e-commerce manager can create, edit and manage freight classes and associated eligible shipping methods and destination regions. Freight classes are intended to be associated with products.
Shipping Rules	The e-commerce manager can create, edit and manage shipping rules to manage exceptions to the defined shipping configurations, for example, to restrict specific shipping methods to certain destination regions or to exclude individual products from being shipped to certain destination regions or to define specific surcharges.
Shipping Data Import & Export	The e-commerce manager can manage shipping configurations by importing and exporting shipping methods, destination regions, freight classes and shipping rules. The import/export procedures are based on XML files.
Surcharges	Surcharges can be defined via shipping rules. The common handling how to consider several surcharges can be configured via the channel preferences but overwritten by each rule.
Ship Time Range	An administrator of a sales channel can set up common shipping time ranges for shipping preparation and delivery. It is used to show the expected day of delivery. Each time range can be overwritten by time ranges specifically defined for shipping methods.
Delivery Time per Product	A e-commerce manager can define the delivery time range per product. The estimation of the expected day of delivery considers this time

Shipping	
	range together with the shipping range of the shipping method or the common preferences.

Payment	
Payment Services	
Invoice	Customers can select invoice as the payment method during the checkout process.
Cash on Delivery	Customers can select cash on delivery as the payment method during the checkout process.
Cash in Advance	Customers can select cash in advance as a payment method during the checkout process.
Direct Debit Transfer	Customers can select direct debit transfer with previously saved bank account data as a payment method during the checkout process.
Gift Cards/Certificates	Customers can select gift certificate as payment method during the checkout process.
Buy Gift Card/Certificate	Gift cards/certificates are a special type of product with a fixed price. The customer can buy the gift card/certificate and the code and pin displayed after submitting the order at the storefront. The customer also receives an e-mail with this code and pin numbers. The retailer sends a physical gift card/certificate to the customer.
Redeem Certificate	Any numbers of gift certificates can be redeemed in the checkout at once. If doing so, the customer is prompted for the code of the certificate. After the customer has specified a valid code, the certificate amount is credited for the current order. Gift

Payment	
	certificates can be combined with other unlimited payment methods (e.g., invoice).
Redeem Gift Card	Any numbers of gift cards can be redeemed in the checkout at once. If doing so, the customer is prompted for the code and the PIN of the gift card. After the customer has specified a valid code and PIN, the gift card amount is credited for the current order. Gift cards can be combined with other unlimited payment methods (e.g., invoice).
Gift Card/Certificate Balance	The customer "My Account" section displays the gift card/certificate state and the amount left for each gift card.
Optional Payment Services	
Sample Payment Implementations	Sample payment implementations ("before checkout", "fast checkout" and "for authorization" as well as Credit Card) can be used for an easy integration of a new payment method.
Payment Management	
Payment Method Management	Additional payment method plugins can be added as managed services. Sales channel administrators can select the payment methods that are available in the storefront for all customers. For each activated payment method, channel- and application-specific preferences can be defined.

Organization Management

Localization & Internationalization	
Languages	Intershop Commerce Management can be localized to any language. Localization tools and dictionaries to support translation to

Localization & Internationalization	
	other languages are delivered with the standard software package.
Intershop Commerce Management	Intershop Commerce Management is available in: • English • German (Central System Administration, development tools and Setup available in English only) • Other languages can be done via localization framework.
Reference Site / Demo Content	English
Multiple Locale Support	Locales represent specific geographical, political or cultural regions. Locales are associated with a language and a currency. Multiple locales can be used within an application.
Change Localized Strings	The localization manager can maintain the static texts to be displayed in the sales channel storefront for each locale in the business management tool.
Localization Framework	Standard Java resource bundle localization framework is used to localize text. Localization property files stored in cartridges contain keys with localized strings. ISML templates contain <ISTEXT>-tags to load localized strings at runtime. Tags can be extended by parameters to reduce development effort.
Multi-Byte Support	Multi-byte UTF-8 encodings can be used to localize all HTML-based Web interfaces and business data.
Localization Import & Export	The localization manager can export localization in different formats (e.g., XML) to

Localization & Internationalization	
	the file system. The changed file can be uploaded and imported back to the channel.
Currencies	
Multiple Currency Support	Multiple currencies can be used to localize prices and pricing rules.
Locales and Currencies	The e-commerce manager can assign locales and currencies on an application level. This allows the visitor to see only pages and product data for the valid countries and languages.
Time Zones	Administrators can specify a time zone per channel, so e-commerce managers are able to manage all time dependent features, e.g., promotions, campaigns and content in context of the defined time zone.

Organization Modelling	
Sales Organization and Multitenancy	A sales organization represents the owner or root organization of a system that implements a multi-channel sales business model. Each sales organization sets up a system of shops and organizations to model its demand chain, publishes content and manages orders.
Organization Profile	Sales organizations are associated with a general organization profile. The organization profile aggregates two types of information: • General Information: This includes information like the name of the organization and the default currency and language used for the channels created by the sales organization. The default currency and language settings can be overwritten at the channel level. • Address Information: Each organization has at least one address. This address cannot be

Organization Modelling	
	deleted and is referred to as the organization's contact address. An unlimited number of additional addresses can be created as needed.
Channel Management	The sales organization can view its demand chain via the channel browser. The channel browser displays all shops and their relationships to one another. It allows access to the associated front ends as well. Two types of channels are available: sales channels and partner channels.
Shops (Sales Channels)	A sales organization administrator can create an unlimited number of shops using the sales channel functionality.
Shop Hierarchy (Partner Channels)	A sales organization administrator can create a hierarchical structure of business layers (e.g., country divisions, business divisions, business models) using the partner channel functionality. An administrator of a partner channel can activate and deactivate partner organizations. Subsequently users of a deactivated organization are not able to log into the system. An administrator of a partner channel manages sales partners which can be added, modified and deleted.

User and Account Management	
User Management	A sales organization can manage its internal users and their profiles, including login and contact data. Users are added, modified, deleted as well as activated or deactivated. Access privileges are granted to users, and users are assigned to departments of the sales organization. Users manage parts of their profile themselves.
Departments	A sales organization manages its internal department structure. Departments can be added, modified and deleted. Departments are arranged in

	a department hierarchy. Users are assigned to one or more departments.

Analytics and Reporting

Dashboards and Widgets	
Dashboards	The user can create an arbitrary number of dashboards (with unique dashboard names) and navigate to a dashboard from anywhere in the Intershop Commerce Management (dashboards are available over a dedicated menu item in the header of the Intershop Commerce Management). Widgets can be added to a dashboard via the widget selection dialog. The widgets can be moved and resized within the dashboard. The dashboard is divided into four columns, every widget can span 1 to 4 columns and an arbitrary number of rows. Widgets can be configured (configuration options depend on the widget type). The access to the widget content is restricted by permissions.
Widget Framework	The development framework for widgets provides the possibility to add custom widgets in addition to the existing widget types. The framework provides functions to: • Read and store configuration values • Generate diagrams with a JavaScript chart library • Automatically integrate into the widget library • Support the rendering of an external URL in widgets • Configure permissions for widgets
Reporting	
Data Aggregators	Business data, such as orders, and system data, such as log file entries, can be collected, aggregated and

Dashboards and Widgets	
	written into a reporting repository. Data collectors can be scheduled.
Business Intelligence Integration	Collected and aggregated data from the reporting repository can be used by Business Intelligence Systems for generating business and technical reports.
Intershop Commerce Insight	Collected and aggregated data from the reporting repository can be transferred over secured connections to the Intershop Commerce Insight (ICI). The ICI is a service offered by Intershop Support to generate business and technical reports and return these reports to Intershop customers over a secured Web interface. Special terms and conditions apply.

Multivariate Testing	
Conversion Optimizing	
A/B-Test	We are using the term A/B-test synonymous with the term multivariate-test, because the Intershop Commerce Management supports test designs with multiple test groups. A/B-tests are an easy and inexpensive way to test different versions of promotions or content assets (page variants and components) against each other. Thus it is possible to identify the best version and optimize conversion rates. Customers, customer segments or affiliate partners can be selected as target group for the test. The target group can be split into an indefinite number of test groups. Different versions of promotions and content assets can be assigned to each test group in order to be tested. To identify the best version, a report is created including test group specific data like conversion rates, number of ordered products, total

Multivariate Testing	
	order value, content asset clicks, content asset views, promotion applies etc.
Activation Rules	The A/B-test activation rules determine the activation period, which defines a specific start and end date. The A/B-test for promotions considers the parameters of the promotion (e.g., the activation period).
Target Group	The target group defines which customers are going to participate in the test. To define the target group, one or more customer segments, affiliate partners or partner programs can be selected. The members of the target group are then distributed proportionally over two or more test groups.
Test Groups	The test group determines which version of a promotion or content asset will be presented to the test participant. Depending on the proportional split, the system randomly assigns customers that belong to the selected target groups to one of the test groups.
A/B-Test Statistics	While an A/B-test runs, the system keeps a detailed record of all target group members activities. Once the test has started, marketing managers can view the test results. Results are updated asynchronously via job. Test results can be viewed via a summary table showing the most important results at a glance including an indicator for the statistical relevance, or via detailed breakdowns of all different customer activities that the system tracks.
A/B-Test Preview	The marketing manager can control the different test objects in a storefront preview.

Web Analytics	
Business Tracking Framework	Based on events (view events e.g., view page, basket, product, category and action events, e.g., add to basket, place order etc.), reporting data can be

Web Analytics	
	provided to external reporting systems using the business tracking framework.
Storefront Tracking Tags	Pages in the Blueprint Store are tagged with meta data information to provide reporting data.

Synaptic Commerce API	
Google Tag Manager	The Intershop Commerce Management supports the integration of different Web Analytics tools like Google Analytics and others via an interface to Google Tag Manager. Based on specifically prepared storefront pages, the user interaction can be traced and analyzed to generate reports. The integration is based on a so called data layer and supports the use cases specified by Google Enhanced Ecommerce - Universal Analytics. For using Google Tag Manager in the Intershop Commerce Management, a Google Tag Manager account is needed. The Google Tag Manager Managed Service must be configured and enabled.

Auditing	
Auditing Framework	Using the auditing framework, system administrators can track all changes to business objects, e.g., product price changes or changes of order states. A specific configuration file allows for defining which business object changes should be tracked.

Operational Excellence

Performance and Scaling Infrastructure	
Web Caching	The Web Adapter acts as a Web cache. Entire Web pages or Web page elements can be cached. Pages may consist of cacheable and non-

Performance and Scaling Infrastructure	
	cacheable elements. Requests for cacheable pages or page elements can be served from the Web cache. This prevents those requests from being passed to the application servers and triggering business logic and database accesses there.
Personalized Web Caching	Web caching can be personalized for groups of users. Each group can be provided with a separate set of cached Web pages and Web page elements.
Web Cache Management	Web pages and Web page elements can be declared as cacheable. Those pages and page elements can be tagged with an expiration time. The Web cache can be cleared entirely or for the scope of an channel. Additionally, pages and page elements can be grouped; the Web cache can be cleared for each group individually (selective page cache deletion). The complete state of the Web cache for the scope of a channel can be preserved in order to roll back cache changes performed by a data replication process (see section Data Replication Framework).
Client Web Cache	The Web Adapter controls the caching facilities of Web browsers and proxy servers. It provides expiration information to those caches and is able to prevent caching by Web browsers and proxy servers, e.g., for POST requests.
Index-Based Page Cache Deletion	The Intershop Commerce Management features page cache indexing, which provides a mechanism for selectively deleting page cache contents.
Web Cache Pre-Fetching	The Intershop Commerce Management introduces Web cache pre-fetching. This mechanism allows for controlling the page cache preparation and deployment after data replication processes.

High Availability and Clustering	
High Availability	
Multiple Synchronized Datacenters	To ensure a high availability and security, the Intershop Commerce Management supports working with multiple datacenters. The datacenters are synchronized automatically. If one datacenter goes offline, existing customer sessions can be switched between multiple synchronized datacenters.
Cluster Management	
Application Server Management	Application servers can be started, stopped, and shut down.
Application Server Configuration	Application server settings, such as setting controlling fail-over, restart, session handling, logging, cookies usage, object caching, database connections, memory usage, CPU usage, can be configured in a central configuration file. Those settings can be overwritten individually for each application server.
Server Groups	Groups of application servers can be defined in a central configuration file. An application server can be assigned to one or more server groups.
Web Adapter Configuration	Web Adapter settings, such as settings controlling web caching, session handling, logging, SSL usage, load balancing, can be configured in a central configuration file.
3-Tier Architecture	The Intershop Commerce Management has a 3-tier architecture, consisting of a Web tier, an application server tier, and a database tier.
Web Tier	The Web tier consists of Web servers. Each Web server is enhanced by a Web Adapter plugin (see below). Any number of Web servers (with Web Adapter plugins) can be operated in parallel in order to scale with the number to incoming requests.

High Availability and Clustering	
Application Tier	The application tier consists of application servers. It processes the business and presentation logic of the Intershop Commerce Management. Any number of application servers can be operated in parallel in order to scale with the number to incoming requests.
Data Tier	The data tier consists of a relational database server storing the business objects.
Server Cluster	An Intershop Commerce Management cluster consists of a number of Web servers (with the Web Adapter plugins) and a number of application servers sharing a common database. Web servers and application servers can dynamically be added to or removed from a server cluster.
Server Groups	An Intershop Commerce Management cluster can be divided into logical sub-clusters, called server groups. Server groups can be assigned to applications, serving as dedicated resources for those applications.
Web Adapter	The Web Adapter is a plugin that runs as a native module within Web servers. It distributes incoming requests to application servers. The Web Adapter controls the session handling and load balancing, and it acts as a Web cache. The Web Adapter supports SSL connections.
Web Servers	Web server on a separate server machine: an appropriate sizing of the Web server according to its documentation is required.
Load Balancing	Web Adapter act as a software load balancer. Incoming requests are dispatched to application servers using a load balancing algorithm preferring the most responsive application server. In addition to the software load balancing provided by the Web Adapter, hardware load balancers can be put in front of the Web tier.

High Availability and Clustering	
Session Management	
Sessions	The Intershop Commerce Management provides a session mechanism to maintain state over a series of requests from the same user across a period of time. Sessions are represented by session IDs, either stored in URLs or as session cookies.
Session Failover	Initially, a session is assigned to an application server in order to optimize business object cache usage (session affinity). It is automatically reassigned in case the initial application server is not available.

Advanced Replication	
Data Replication	Data replication is the mechanism of transferring data from one Intershop Commerce Management cluster to another one and activating (publishing) these data afterwards.
Data Replication Process Types	Data replication supports the following process types: • Replication (data is replicated, but not published on the target system) • Publication (replicated data is published on the target system) • Replication & publication (combination of replication and publication) • Undo (published data is rolled back)
Mass Data Replication	Mass Data Replication allows the transfer of large amounts of data between physically separated Intershop Commerce Management systems, e.g., an editing and a live system. In a typical scenario, the data replication process is used to update content and business rules first in an editing system and then transfer this data to a live system and activate it there.

Advanced Replication	
	The central administrator is responsible for the execution and monitoring of data transfer processes. An administrator of the business units (organizations, channels) of the system sends data transfer requests to the central administrator. Such requests are provided as tasks in a task list and specify the requesting business unit and the data to be transferred.
	Data replication includes processes to replicate and publish data and to rollback published data on a target system. All processes can be executed manually or based on a scheduler. A process monitor provides details about the status of running processes.
Full Data Replication	This configuration of data replication allows the very fast bulk replication of large amount of data. It replaces entire sets of data records on the target system. Changes on the target system are overwritten (compare to Differential Data Replication).
Differential Data Replication	With this configuration of data replication, changes on the target system are not overwritten. Instead, only the changes on the source system are transferred and synchronized with the changes on the target system (compare to Full Data Replication).
Business Object Replication	Business Object Replication allows a quick transfer of specific data (e.g., selected products, pricelists) to reduce the publishing time. The feature can be used for data corrections.
Replication Chains	Intershop Commerce Management clusters can simultaneously act as both source and target of replication processes. This allows the setup of data replication chains. For example, the first system in the chain might be a data editing system. The second system might be a test system that by itself is followed up by a live system.
Process Locking	Data replication process execution is controlled by the system locking facility. This facility locks resources used by a data replication process and prevents conflicting processes (such as schedules, imports or other replication processes) on those resources. Data

Advanced Replication	
	replication processes not competing for resources can be executed in parallel.

Platform Core	
Software Life Cycle	
Continuous Integration and Continuous Delivery	The Intershop Commerce Management and its Microservices are delivered with tools that can be used to build, assemble, upgrade, downgrade, deploy and un-deploy software components. These tools are designed to implement very flexible continuous delivery processes. The source files of the software components (system components, respectively) are checked into a version control system like subversion or git. Each check-in process triggers an automatic process on a continuous integration server, like Jenkins, Hudson, Team City or Atlassian Bamboo, which checks out the system components, builds them, and runs different tests. The report of this process is delivered to the teams to provide feedback in case of problems. The built system components are published to an artifact repository. The subsequent assembly process combines a number of system components in a concrete version and publishes different assembly artifacts. The following steps in the delivery pipeline include automatic deployment to clusters with different purposes, execution of different tests like load tests, manual tests as well as pre-production tests. Finally, the new components are deployed to the production system.
Public Artifacts Repository	The Intershop software and updates are provided via a public artifacts repository server. This enables a seamless integration of Intershop software components into the

Platform Core	
	project environments, using the continuous delivery approach.
Deployment Process	The deployment process is independent of the operating system. The available operating systems are specified in the system requirements document. The deployment process expects a published assembly located in an artifact repository. There are two types: • *Single Node Deployment* installs and configures all host types on one host. • *Cluster Deployment* consists of several sub-processes installing and configuring particular nodes of an Intershop cluster.
Support of Custom Cartridges	The build management is based on the standard tool Gradle. The entire process can easily be extended into customer projects. Custom cartridges can be built, configured in assemblies and deployed in the same way as the Intershop Commerce Management standard system.
Process Scheduler	
Process Schedules	Processes (pipelines) can be scheduled for one-time or recurring execution. The execution state of those processes can be monitored. Scheduled processes can also be executed ad-hoc.
Job Execution Chain	System administrators can define chains of jobs or pipelines to be executed concurrently or sequentially. This extends the scheduled job execution functionality.
Command Line Interface	Process schedules can be triggered from the command line.
Web Service Interface	Process schedules can be triggered from a Web Service Interface.

Platform Core	
Transport Framework	The Transport Framework performs file transport to allow files to be imported or exported and copied from/to external locations via SFTP, FTP, HTTP(S) or e-mail. After creation of a transport configuration with protocol, login, password and path etc. it is possible to include such configuration into a job which can then be called periodically. This job can then be integrated into a Job Execution Chain to have a fully automated import from an external file location.
Cloud	
Microsoft Azure	Intershop supports Microsoft Azure.To be able to run in Microsoft Azure, the messaging can be configured to JGroups to avoid multicast.
Amazon Web Service	Intershop supports Amazon Web Services. To be able to run in the Amazon Web Service (AWS), Intershop supports Amazon's messaging services Simple Notification Service (SNS) and Simple Queue Service (SQS). Those messaging services are used instead of multicast which is used across the whole Intershop application, e.g., for cache invalidation and job handling.
Frameworks	
JDK 8	The intershop application servers use Java 8 as core technology. Java 8 delivers enhanced developer productivity and significant application performance increases through reduced boilerplate code, improved collections and annotations, simpler parallel programming models and more efficient use of modern, multi-core processors.
Business Object Framework	Java Objects - Business objects are implemented as Java objects. Persistence - Business objects can be made persistent in a relational database by object-

Platform Core	
	relational mapping (ORM). The connections to the relational database are pooled to ensure reuse and better performance. Business Object Caching - For better performance, persistent business objects are cached in the application servers to avoid access to the relational database. Cache Synchronization - To prevent the use of outdated data, the caches of the application servers of a cluster can be synchronized.
Search Framework	Object Model-based Search - The search framework allows search queries to be based on the business object model and not on the underlying data model of the relational database (which is the result of the object-relational mapping (ORM)), making those queries more intuitive. The business object model can be extended. This results in an automatic extension of the query encoder (see below). Query Encoder - The query encoder translates search queries against the business object model into optimized SQL-queries against the relational database. Search Result Paging - The search results can be paged. The number of items per page can be configured.
Configuration Framework	The system administrator decides where to read a configuration from. In the *configuration.xml* different scopes are defined, which are logically structured configuration groups (e.g., System, Startup, Instance, Cluster, Server, Domain) with dependencies. The current configuration values can be viewed in the Server Management. Configuration Import & Export - The configuration can be exported in the Server

Platform Core	
	Management via batch job "exportconfiguration".
Generic Framework for Configurable Objects	The framework for configurable objects allows an easy creation of preferences and properties. The preferences can be grouped together in property groups which are the atomic sets of properties required for a single feature. Default values and fallback strategies as well as validation constraints can be defined for properties. The property types are mapped to editor controls which are rendered automatically in the configurable object UI. Descriptions, captions and help texts are localizable for custom preferences.
Auditing Framework	Using the auditing framework, system administrators can track all changes to business objects, e.g., product price changes or changes of order states. A specific configuration file allows for defining which business object changes should be tracked.
Logging Framework	The integrated logging framework of the Intershop Commerce Management produces detailed log information and can integrate third-party APIs (Tomcat, Java AWT, etc.) into its logging framework.
Presentation Framework	Java Server Pages (JSP) - The presentation logic is realized with Java Server Pages (JSP). Intershop Markup Language (ISML) - Intershop Markup Language (ISML) is a server-side scripting language to simplify the implementation of the presentation logic. ISML templates are translated to JSP code in a compilation step. ISML tags and JSP code can be mixed. Content Management - The new content management allows changes in the

Platform Core	
	storefront without consideration of deployment cycles.
Web Form Framework	The new Web Form Framework reduces implementation efforts in pipelines and templates. This framework provides e.g., multiple validation methods for input data with a suitable error handling.
Multiple Output Devices	Multiple sets of ISML templates can be used to support multiple output devices, such as browsers and PDAs, and multiple markup languages, such as HTML, XML, WML, and cHTML.
Service Registration/Service Discovery	
Web Adapter/Application Server/Solr	For more resilient services Intershop uses service registration and discovery for Web Adapter, Application Servers and Solr. The default implementation of this is Eureka but could be changed to any other compatible service registration/service discovery.
Microservices	
Stack	Intershops Microservices Stack consists of a JAX-RS Application sitting on top of an EclipseLink persistant layer.
Continuous Integration and Continuous Delivery	Via Intershops Gradle Tools it is possible to deploy Microservices delivered by Intershop. A blue print exists to enable deploying own Microservices.
Service Registration/Service Discovery	Microservices are integrated into SRD of Eureka.
User Interface	

Platform Core	
HTML Web Interface	All user interfaces - except setup and development tools - are HTML-based Web interfaces.
Customization	All HTML-based Web interfaces, in particular the customer-facing storefronts, can be customized.
Licensing & Accounting	
License Auditing	Intershop is authorized to request license reports from Intershop Commerce Management customers. The License Report module can be used to generate a license report and to send it to Intershop, according to your purchasing contract and license agreement.
Audit Report	An audit report that summarizes the software usage can be generated. According to the End User License Agreement, this audit report must be passed to Intershop on request.
Transaction Report	A transaction report that summarizes the order volume and the number of orders of all customer and business channels within a specified time period can be generated. Intershop customers with a transaction-based pricing model must pass those transaction reports to Intershop as specified in the contract. Special terms and conditions apply.
Logging	
Event Logging	System information is recorded in log files. The scope of recorded information can be configured. The following log scopes are available: FATAL, ERROR, WARN, SYSEVENT, DEBUG, JOB, PERFORMANCE, STAGING. The entries for each log scope can be written into different log files. Log files are rolled over based on a configured size.

Platform Core	
Request Logging	Requests received by Web Adapters are recorded in a log file. The log files contain detailed statistical information for each request, such as the response and the source of the request. The request logging is configurable during run-time.
Site Management	
Site Preferences	Using the System Management module, the system administrator can control global settings for the sites served by the Intershop Commerce Management System. The following general preferences can be controlled: server group assignment, HTTPS traffic, URL rewriting and online status.
Cache Preferences	On the Page Cache tab, system administrators control the page cache behavior of the site. In addition to the global page cache activation, this includes the following settings: • The time that static content is kept • Keyword-based cache invalidation and deletion • Cache index-based cache invalidation and deletion • Complete cache invalidation and deletion • Cache pre-fetching
Application Settings	An overview of installed applications with status and used cartridge structure
File System	
File Browser	The system administrators have the possibility to browse through various shared directories from different servers of a cluster.
Monitoring	

Platform Core	
Cartridge	The status and configuration of cartridges can be monitored. Additionally, loaded pipelines and pipelets are displayed.
Database	Information about used drivers and the current connection pool status is provided.
Java Virtual Machine	Information about the usage of virtual machine resources, the amount of threads, and the configuration of virtual machines is provided.
Application Server	Information about the usage of resources and the configuration of a selected application server is provided.
Cluster	Information about the application servers and the Web Adapters in the cluster is provided.
Performance	Performance numbers about the runtime of pipelines, pipelets, and templates for the cluster and its components are provided.
Session	Information about new sessions is provided.
Progression Charts	The temporal progression of virtual machine memory usage, process memory usage, CPU usage, number of sessions, number of requests and average response time are presented as charts.
Appserver Health Monitoring	Java level thread dead locks, missing database and file system accessibility, as well as execution threads (request handler, job executor) for out of memory errors may lead to registered but not working application servers. Requests from customers to these application servers return an error page. The application server showing one of the problems mentioned above is now unregistered from the configuration service to prevent future requests to this server, and the errors will be written to the debug log.

Platform Core	
	Application servers are automatically restarted if they fail.
Installation Maintenance	Using the Installation Maintenance module of the Intershop System Management, the system administrator can collect vital information about the Intershop Commerce Management System and transfer it to Intershop Support.
Documentation	
Documentation	Documentation for Intershop Commerce Management is delivered in English. German versions of User Guides/Online Helps are delivered on request to customers entitled to work with the German Language Pack.
User Guides	- Managing Online Shops - Organization Management User Guide - System Management Online Help
Online Help	- Managing Online Shops - Organization Management User Guide - System Management Online Help - Cluster Management Online Help
Installation/Administration/Development	A large number of documents on installation, administration and development is available in the Customer Support Knowledge Base.
Synaptic Commerce API	
RESTful API	
Job Handling	Jobs and import processes can be created, started and monitored.

Continuous Delivery	
Build	The build system is just one part of Intershop's whole Continuous Integration (CI) strategy. It is based on Gradle and also supports test and deployment and can be integrated into CI tools like Jenkins and Nexus.
Test Automation	Frameworks and tools to support test automation on all 3 levels of testing: • User interfaces tests - based on HTML Unit, Selenium and PhantomJS • Service/integration tests -These tests are based on the Intershop Cartridge API test framework. CAPI Tests are a special implementation of server-side testcases. These are executed in a full server environment. All resources accessible to normal business logic components are accessible to these test cases as well. In addition, it provides a generic test case that allows the execution of pipelines from within the test case. • Unit tests - These are test cases that are independent of a full server environment and can be executed in isolation. They do not have access to typical server functionality or pipelines. However, client side test cases are useful for testing utility functionality that is server independent. Client side tests are implemented using standard facilities of the JUnit 4 test framework and the Mockito mocking framework.

High Security Architecture	
Security	
HTTPS	The storefront web interface can be secured by HTTPS. Alternatively, only the order checkout, the customer authentication and registration processes can be secured by HTTPS.

High Security Architecture	
System Access Privileges	An access privilege represents a set of permissions, which control the access to administrative functionality. They can be assigned to users as well as to department roles of a sales organization.
CAPTCHA	Channel administrators can configure CAPTCHA usage on channel level. CAPTCHAS are available for the "Forgot password", "Registration", "Contact Us" and "Tell a friend" features.
Profanity Check	To keep storefronts clean from profane language, organization administrators can define words, relative to a locale, that are not allowed in the organization's storefronts. As a consequence, any use of these words in product reviews, gift card messages or other content that users can edit is then blocked. It is possible to maintain one global bad word list per locale, which is propagated to all channels, and a custom bad word list (per locale), which is only valid for the current organizational scope (organization or channel).
Cross-Site Request Forgery (CSRF) Guard	The CSRF guard is an Intershop-specific implementation of the synchronizer token pattern, a mechanism to prevent cross-site request forgery attacks (see www.owasp.org).
PKDF2 Password Encryption	The default password hashing algorithm is PKDF2 with random 64 bit salt, which is approved by the National Institute of Standards and Technology (NIST).
Content-Security-Policy	Support of Content Security Policy as specified by W3C: Content Security Policy is a declarative policy that lets the authors (or server administrators) of a web application inform the client browser about expected behavior of the application (including content sources, script sources, plugin types, and other remote resources), which allows the browser to more intelligently enforce security constraints. A well-applied Content Security Policy essentially eliminates most forms of Cross Site Scripting attacks.

High Security Architecture	
Administration	
Business Management Tool Authentication	Users of a sales organization can log into the system by entering their credentials (login, password, sales organization). They are authenticated against the local user database or LDAP directories. The Java Authentication and Authorization (JAAS) standard is supported.
PCI/PA-DSS Compliance Support	
Disable Users	System administrators can configure the time period after which an inactive user is automatically disabled. Disabled users must be reactivated manually by organization managers in the business management tool.
Last Login Date	The date/time of each user's last login is stored in the database. Business Management Tool users can see the date of their last login in the Business Management Tool. User managers can see the last login date of each user within the user profile.
Password Handling	System administrators can configure the password validity period and the number of previous passwords not to be reused. In addition, they can define the password expression rules (number of characters, allowed and required characters). By default, passwords expire after 90 days, the four last passwords cannot be reused, and all alphanumeric characters are allowed.
Login & Session Handling	System administrators can configure the number of failed login attempts before the user account is locked and the time period after which a user cannot log in after being locked. In addition, system administrators can define an inactivity period after which a business management tool user is automatically logged out. By default, a user account is locked for 30 minutes after six failed login attempts, and sessions automatically time out after 30 minutes of inactivity.

High Security Architecture	
Key Management	The system administrator can manage multiple encryption passwords and mark one of them as default. The feature allows the decryption of data using old passwords and to re-encrypt data with the currently active password. Furthermore, different encryption algorithms can be defined.
Payment Permissions	Organization managers can assign specific payment management roles to business management tool users: • Payment Configurator, who activates and configures payment services • Payment Manager, who performs payment transactions • Payment Viewer, who can view payment transaction information
User Data Auditing	Every access to sensitive payment data is stored in an audit trail. Each time the user logs in the system, updates his or her password or the password of other users, creates a new user or deletes one or more users, changes role assignments, changes the status of orders or executes some payment actions (like Capture or Cancel), new entries are written to a dedicated log file. The messages explain the result of an executed action - success or error, as well as any additional data, if available.
Audit Log/Audit Report	An audit trail of business-relevant chronological records is created for user activities in the Intershop Commerce Management in the area of products, prices, promotions and content. The system administrator can configure, search, review and export/save a report of user-based activities.

Synaptic Commerce API

Synaptic Commerce API	
REST API Framework	Framework for Composition of new REST APIs (based on Jersey): JSON and XML formats are supported as return type. With this RESTful API for example it is possible to build native smartphone apps easily which interact with the Intershop Commerce Management.
Managed Service Framework	The managed service framework is a collection of standardized functions to integrate third party applications (e.g., inventory service, address check service, captcha service) in a structured way. Business users can enable and configure one or multiple services in the business management tool on organization, channel and application level. The service configuration includes a configurable user interface, logging and monitoring. Service configurations can be shared.
Import & Export Framework	Mass-Data Import & Export - A facility is provided to import and export business objects. This facility is especially designed for the import and export of mass-data. Import & Export Customization - Import and export processes are implemented as pipelines and can therefore be customized and extended. Import Modes - The following import modes can be configured either for an entire import process or for individual objects: initial (object is created), ignore (object updates are ignored if object already exists), update (object attributes are updated), replace (objects are replaced), delete (objects are deleted). Import Validation - The import data can optionally be validated for syntactic and semantic consistency before the actual import takes place. Export Templates - ISML export templates can be used to export business objects into custom data formats. Import & Export - Import and export processes can be scheduled.

Synaptic Commerce API	
	Command Line Interface - Import processes can be triggered from the command line.
	Web Service Interface - Import and export processes can be triggered from a Web Service interface.

In addition, Intershop Commerce Platform Advanced contains:

Intershop Customer Engagement Center

Feature Name	Feature Description
Customer Search	A customer search can be processed in a channel or over all channels of the organisation the agent has signed in for. The search can be processed as simple or advanced search. A customer can be selected for further service actions.
Single field search	The single field search requires at least 3 characters and searches in e-mail addresses, customer numbers and surnames without further specification.
Advanced search	The advanced search supports searching for 9 different parameters in specified fields to find a customer: First name Last name Date of birth Customer number Email address Phone number Zip-code City Country

Feature Name	Feature Description
	The search can be restricted to one channel of the organization.
Customer Overview	Profile and order information are delivered via REST and shown in the application.
Recent Orders	The last orders of the customer are shown in a list sorted in descending order by the order number.
Order details	An order in the list of recent orders can be opened to show detail information delivered by the REST API.
Customer information	The customer information depends on the selected customer. For B2C customers all stored addresses are shown next to the common profile data. For B2B customers company information is shown in addition to profile data.
Coupons	Coupons represent promotion codes that entitle customers to benefit from a specific promotion. The contact center agent can select a promotion from a list of available promotions and generate a promotion code for the customer. The agent can submit the generated code to the customer via e-mail. Furthermore contact center agents are also able to apply codes to a customer's cart.
Quick Order	Quick Order allows for creating an order on behalf of the customer within a single page optimized for efficient order entry.
Shopping cart	Call center agents can add products directly by entering the SKU of the product. If the product has variants, the product variation can be selected in a dialog. The basket is created when the first product is added. The agent can edit the quantity or remove the line items from the cart.
Product search	Products can be found by providing a part of the SKU or the product name within a search form. The search result is provided as a product list. Each product can be added from that list to the cart.
Addresses	The default shipping and invoice addresses are automatically selected for the cart. Both can be changed if the customer's profile has more than one address

Feature Name	Feature Description
	stored. Furthermore an additional address can be created and saved at the profile.
Payment	The call center agent can select one of the available payment methods. The availability of the payment methods depends on the channel preferences in Intershop Commerce Management and on the configuration of the contact center white list. New bank connection details for the payment method "Direct Debit Transfer" can be added to the order and saved at the customer account.
Shipping Method	The eligible shipping methods depend on the product configurations in Intershop Commerce Management and the selected delivery address. Each method which updates the cart updates the list of eligible shipping methods for each line item.
Take over basket	Existing shopping carts from the selected customer can be taken over by the agent and processed in the same way like new ones that have been generated by the agent. The contact center agent has two possibilities to take over the cart: The last generated shopping cart from the customer can be taken over directly. The agent can open a dialog and select the correct cart from the displayed list of all existing carts of the customer. All changes are visible for a customer who is online and logged in after refreshing the browser. The customer has the option to check out the modified cart in the storefront.
Place order	Once all shopping cart details are properly set and applied, the agent can place the order on behalf of the customer.
Co-Browse	The contact center agent can start a "co-browsing" storefront session. That means, the agent is logged in to the storefront using the customer's credentials. The catalogs and products, prices, promotions, content etc.

Feature Name	Feature Description
	are displayed to the agent in the same way as to the customer.

Intershop BI Data Hub Service

As this product is a data service, the retrievable data are considered as features. Available are:

- Order data

- Product data

- Order states (are contained in the order data)

Order Data

The following data is provided:

BASE ORDER DATA

- First and last name of the buyer

- Creation date

- Currency

- Customer and their ID

- Document number

- Total in gross and net and their tax

- JSON value how it was delivered from the ICM

- Order state

- Order URN (the unique identifier for the order including the channel and organization)

- List of shipping buckets

- Used payment method

- Used promotions (e.g. limited tenders like vouchers)

SHIPPING BUCKET DATA

- List of Product Line Items

- Shipping method id

PRODUCT LINE ITEM

- Name of the product

- SKU

- Quantity

- Single gross and net price

- Product ID (consists of SKU and channel)

PAYMENT

- Payment base amount

- Payment total amount

- Payment ID

ORDER STATES

The order states are delivered via an own Microservice and are taken from the IOM. You can specify an interval which determines how often the order states are updated.

Product Data

BASE PRODUCT DATA

- SKU

- Name

- Short description

- Image link

- Default category and name

- The category path of the product (a list)

- List of assigned categories

- Creation date (from this Microservice and not ICM)

- Last update (from this Microservice and not ICM)

The last two values *creation date* and *last update* can be used to check whether a product was available in a specific period of time, for example to calculate the best/slow sellers in this time

CATEGORY PATH DATA

- Name

- Path ID

- URI (for accessing via REST)

ASSIGNED CATEGORIES

- Title

- URI

In addition, Intershop Commerce Platform Professional contains:

Intershop Order Management

Order Management

CENTRAL ORDER REPOSITORY FOR ORDERS FROM DIFFERENT CHANNELS AND TOUCH POINTS INCLUDING (DATA-CENTRIC)

- Tracking of all order-related transactions

- User-defined attributes for orders or order positions

- Support for internal and several external order references

- Configurable return reasons per supplier and shop (incl. mapping between shop and supplier)

- Support for absolute and relative (percentage) discounts on order and position level

BUSINESS PROCESSES INDIVIDUALLY CONFIGURABLE PER SALES CHANNEL AND SUPPLIER (PROCESS-CENTRIC)

- Order routing by availability ootb, by price, group, manufacturer - need to be customized by project, overall ready to extend

- Order confirmation by supplier

- Automatic creation of sequential order numbers for every customer order

- Shipping date and shipping confirmation by supplier

- Creation of customizable invoices, shipping and return documents per shop, configurable for any business process step (rule-based templates)

- Creation of customizable e-mails, customizable for most of the business process steps (including order and delivery confirmations) (rule-based templates), ready to extend (e.g. for payment events)

- Automatic cancelation of unavailable order items

- Support for end-customer return processes

- Order cancelation or suspension in case of missing authorization by payment provider

- Support for partial (by item) and complete shipping per supplier

- Return request processing (Return Merchandising Authorization)

- Support of partial authorizations and captures

- Support of refunds per payment

- Deletion of payment authorizations for canceled orders

- Refund of payments for canceled orders and single order items

- Capability to integrate several payment providers with multiple payment methods

- Support of manual refunds on order item level for returns and manual credit notes for already existing invoices

- Support of several payment processes depending on payment type (e.g. credit card, PayPal, direct debit, cash on delivery, etc.)

- Tracking of payments for multiple payment types

- Manual or automatic approval of orders based on configurable approval rules

- Support for time-frame-based aggregated invoices (multiple order invoices)

- Ability to change orders in certain statuses by creating change requests (via REST API) that can be applied to an order (serves as the basis for specific project customizations)

USER INTERFACE TO MANAGE ORDERS INCLUDING (OMT-CENTRIC)

- Simple and advanced search for orders

- Search for orders with returns by sales channel

- Search by any combination of payment type, name, membership number, date, article, and so on

- Display of all related data and event history

- Display of all created e-mails and documents

- Display of supplier confirmations

- Display positions as well as charges as part of their shipping bucket at order detail page, invoice detail page and credit note dialog

- Management of delivery status per supplier

- Management of customer, shop and supplier-side cancelations

- Management of customer return requests (RMA)

- Management of returns per supplier

- Management of order approvals

- Management of payments

- Management of return documents

- Management of manual and automatic credit notes for all order positions and charges

- Perform actions on transmissions (e.g. resend invoice transmissions)

- Display of "orders to be checked manually" on overview page

- Search by custom order references

EXTERNAL INTERFACES FOR (API-CENTRIC)

- Order capture

- Cancelation of pending orders

- Delivery notifications

- Integration of external debtor and creditor systems (accounting & ERP systems)

- Return processing

- RMA handling on shop side and supplier side

- REST-API for creating orders, including handling multiple delivery addresses, so-called shipping buckets (dedicated delivery address, shipping method, charges, custom attributes, positions)

- REST-API for order state (e.g. to search orders of a specific state)

- REST-API to trigger order change requests for further operation

Enterprise Inventory

SUPPORT FOR ENTERPRISE INVENTORY VISIBILITY INCLUDING

- Stock per supplier
- Sales-channel-dependent availabilities and stocks
- Different inventory states (Available, Reserved, Sold)
- Reservation of inventory (for instance during checkout process)
- Graphic display of product stock information

EXTERNAL INTERFACES FOR INVENTORY

- Data import and export processes (incremental or complete, file based)
- Requests (Available to promise) for sales channels
- Reservation

Product Data Management

SUPPORT FOR COMPLEX PRODUCT DATA, PRODUCT PRICING

- Different product classification systems (e.g. shirts, kids, ladies, gents, shoes)
- Different prices per variation
- Several suppliers per product
- End-of-life handling for products per supplier
- Individual article numbers per shop, supplier and manufacturer
- Support for different pricing types (sales price, purchase price, recommended price)
- Sales-channel-dependent product prices
- Support of gross and net prices

USER INTERFACE TO MANAGE PRODUCTS AND PRICES INCLUDING

- Detailed parameterizable search for products
- Quick search for products

Customer Management

SUPPORT FOR CUSTOMER DATA INCLUDING

- Several customer numbers per system (shop-customer-number, ERP customer number, etc.)
- Multiple addresses for shipping/billing can be stored at customer level
- Multiple currencies within one shop. Different orders can have different currencies if they are not ordered by the same customer (one customer = one currency).

USER INTERFACE TO MANAGE CUSTOMER-SPECIFIC DATA INCLUDING

- View of all orders and invoices per customer
- Summary of payment balance
- Customer search via different criteria (e.g. orders, name, e-mail) with corresponding order overview
- View of contact history for the entire order-related and customer-related communication
- Manual comments for customer orders

EXTERNAL INTERFACE

- Access to all customer-related data to support GDPR via REST API

Supplier Management

- Supplier systems integration via XML, CSV, XLS interfaces (webservices or file-based)
- User Interface for supplier to manage own orders, shipments, cancelations and returns
- Support for return reasons per supplier and product
- Support for return addresses per supplier and return type
- Support of several shipping types per supplier
- Support of multiple sales channels per supplier
- Individual configurable business processes per supplier

User Management

- User interface to manage users, roles and role assignments per organization

- Fine granular access rights (>100 different)

- Support for multi-level organization trees