Feature List - Intershop Commerce Management 13.0

Introduction

This page lists all the features and capabilities provided by Intershop Commerce Management 13.

All storefront functionalities are exposed via standardized REST APIs, enabling full decoupling of frontend and backend layers. Intershop recommends using the Angular-based Intershop Progressive Web App (PWA) as a reference implementation, which consumes these REST APIs to deliver a comprehensive and feature-rich online shop experience.

Please note, however, that the PWA may not support every feature available via the REST API. For a detailed comparison, refer to the PWA Feature List.
Alternatively, you can build a fully customized storefront or integrate the commerce logic into mobile apps and third-party solutions by directly consuming the REST APIs.

For information on search capabilities of SPARQUE.AI, which is included as our default for storefront and search navigation, refer to the dedicated document Overview - Search and Recommendations (SPARQUE.AI).

Additionally, Intershop offers diverse subscription configurations. Features and options beyond the *Platform Subscription* are explicitly marked as "additional options."

Experience Management

Online Marketing

Search Engine Optimization (SEO)	
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 sitemap 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 no more than 50,000 URLs and is no 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.

Social Commerce	
Product Ratings & Reviews	Products can be rated and reviewed by customers. Ratings can be evaluated by customers as well as administrators. Administrators can reset ratings 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 reviews in Intershop Commerce Management at product level. Individual ratings can be deleted.
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 their site. Also, the feature supports the generation of an Intershop XML and Sitemap XML file. The process can be triggered manually in Intershop Commerce Management 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/disabled) • Data feed target • Schedule • Product assignment

intershop®

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. When exporting data to a file, the feed target also determines the formatting of the XML data resulting from the export process. When 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 Intershop XML • Standard Transformed = Intershop XML standard product export with attribute mapping rules to be applied before writing the result file • Sitemap XML = markup format for sitemap files to be evaluated by search engine crawlers • Feed Dynamix Data Feed = markup format used by the Feed Dynamix feed engine • <Target System> = only available if the current system has been configured as a (data replication) source system and is connected to a target system
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-category or to select individual products belonging to a category.

Search and Navigation

Storefront Search Functionality	
Storefront Search Functionality	Intershop Commerce Platform uses SPARQUE.AI as default for storefront search and navigation. See Overview - Search and Recommendations (SPARQUE.AI).
API	
Service Integration API	
Search Engine Adapter Framework	The search engine adapter framework allows alternative 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 in a defined time frame. Campaigns can be managed at channel level.

Simple Campaign Search	Campaigns can be searched by a simple or advanced campaign search. The simple search is based on the campaign name.
Advanced Campaign Search	Campaigns can be searched by a simple or advanced campaign search. The advanced search allows to 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 displayed in the storefront within the defined time frame. 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 that 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 activation 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.
Execute Campaigns	
Campaign Publishing	The replication of campaigns replicates the campaign envelope with assigned content and/or promotion. The content and/or promotion is automatically published so that the assignments are visible within the campaign. (additional option)

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 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 the number of promotions, the number of enabled and disabled promotions, and the 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.

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.

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. To achieve this, 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 message can be displayed in context of a promotion.
Ad Hoc Publishing	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 once the budget will have been 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 checkout process by supplying a valid code. The expiration date is the date up to which 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 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 their account by the system. When defining a unique code, the channel administrator defines the number of codes that can be generated.
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.
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.
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.

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
Page 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 • 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.
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 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). In addition, content that is available in the sales channel (whether shared master content or channel content) can be shared with an application in that 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.

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: • 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 • 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
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.
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 appropriately configured 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.

Product Information

Product Data Management

Product Management	Channels can have a nearly unlimited number of products. (additional option) Products have standard attributes that can be extended with 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 facilitates the product management. The displayed information can be customized using the search framework.
Product Search	For text string searches, 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 using 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 back office, 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. Administrators of channels can access the product history for their 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 a user with the permission "Catalog & Product Manager" to track and change the approval status for product data. Users 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. (additional option)
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". Users can enter a reason, if they change 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 back to "Edit" by a job. The job takes changes in standard attributes, custom attributes, 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 created, they can be assigned to products, catalogs, and categories.
Label Searching	Labeled objects can be searched by the advanced search.
Product Labels	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 the live system (additional option)
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 • Export or replicate products to the live system (additional option)
Product Recycle Bin	Products are automatically moved to a recycle bin if they are deleted from the product repository. Products in the recycle bin can be restored or finally purged. A preference is available to activate or deactivate the recycle bin.
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	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.
Warranty	
Warranty Management	Channel administrators can activate or deactivate warranties for their channel.
Warranty Products	Warranties constitute special products with specific properties (e.g., cannot be shipped individually 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 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.

intershop®

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 instead of pulling the information for each shop separately. 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 improves the performance considerably. (additional option)
Product Repositories	Each shop (sales channel) has its own, specific channel product repository.
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. (additional option)
Syndication by Search	There are two ways to derive products from other repositories: syndication by search and syndication 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.

intershop®

Syndication with Mapping Rules	Product syndication requires the mapping of attributes (standard product attributes, catalog assignments, prices, etc.) of the original source product to 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.
API	
Import & Export	
Product Import & Export	Products can be imported and exported. The following import and export formats are supported: • Intershop XML • CSV • BMEcat The support for other import and export formats can be added in custom projects.

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 displayed when the requested product is currently out of stock.
Cross-Selling	Cross-Selling is used to offer related products.
Up-Selling	Up-Selling is used to offer alternative, more expensive products.

Accessory	Accessory is used to offer complementary products, such as a monitor for a desktop computer.
Follow-Up	Follow-Up is used to offer newer versions of the product currently selected.
Different Order Unit	Different Order Unit refers to offers of the same product sold in a different packing size or quantity.
Spare Parts	Spare Parts is used to offer available spare parts for a product.
Gift Wraps, Gift Messages	Gift wraps and gift messages can be added to products during the checkout.
Warranty	Warranty products can be purchased together with a product to get additional insurance.
Other	The link type *Other* does not have any pre-defined semantics and can be used for any purpose.

Pricing

Pricing	Administrators of channels can define various list prices in multiple currencies for their products. The channel taxation policy defines whether 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 (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 in 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)

intershop

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 for each channel individually whether product prices and other prices are treated as gross prices or as net prices.
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, 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. 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.
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 are created and set online globally for all sales organizations in 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 Online Status	Catalogs can be online or offline. An offline catalog is not visible to any users, except catalog administrators.
Categories	The e-commerce 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 e-commerce manager can manually assign products to categories.
Catalog Sharing	Shared catalogs are master catalogs that are shared to one or more channels. These catalogs can 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: • Intershop 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. 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 a 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 • Locale of returned product data

Customer Management

Personalization

One-To-One Marketing	
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

intershop®

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 articles they were looking at 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.
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 e-commerce 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 be displayed 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. 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)
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, catalog views.

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 can provide a quote with changed prices and a comment for the buyer in Intershop Commerce Management.
Quote Usage	The buyer can find the response to the quote request in the My Account area. The buyer can accept the quote and add it to the cart or reject it. The negotiation can be continued by creating a new quote request based on an offered quote. Quote usage contradicts subscriptions. One usage excludes the other.

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 automatically assigned 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 owners 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, i.e. registered and logged in users from the 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 addition to the user-specific order approval. In the context of the order approval the cost center owner receives the information about the total cost center budget and user-specific cost center budget that has already been spent. 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.

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: • Individual customers • Business customers Individual customers are usually B2C customers, i.e. 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 log in to 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 check out the shopping cart, they must then either log in, 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 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 Import / Export	Customers and their assignment to customer segments can be imported and exported. The following formats are supported: Intershop 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 regard 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 My Account or the Contact Us page in the storefront. 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.
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.
Configure E-Mail Preferences	An administrator can configure the e-mail from address and e-mail templates in the channel preferences.
Customer Self-Service	
Authorization & Authentication	

Login	Registered private customers or users of a business customer can log in to 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 information 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.
Marketing and Service Permissions	Customers can manage their preferences regarding e-mail services offered by the shop.
Newsletter	Private customers or users of a business customer can activate or deactivate the newsletter service.
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 Wish List	Registered customers can create and maintain multiple wish lists.
Desired Quantity	Customers can specify a desired quantity for products on a wish list and configure preferences for desired quantities.
Add Product to Wish List	Products can be added to a wish list. From a wish list, products can be added to the basket or be deleted.
Wish List Visibility	Customers can hide the entire wish list from other users.
Invite User	Customers can invite other users to shop from their wish list.
Search Wish List	Customers can search for public wish lists of other registered users. The supported search criteria include e-mail address, last name, name, or combinations of the attributes.

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.
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.

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 e-commerce 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.
Recurring Orders	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. Furthermore, they can also enter an end date. Recurring orders can be disabled and re-enabled by customers in their account, as long as a configured end date has not been exceeded. Eligible payment methods can be restricted or enhanced, depending on the connector to the payment service provider. "Invoice" and "Direct Debit Transfer" are preconfigured. This feature is provided by the Recurring Order Extension and may incur additional costs.
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.
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	

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.
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.
Pack Slip Messages	Customers can enter a pack slip message for each shipping destination in the checkout process at no charge.
Desired Delivery Date	A customer can add a desired delivery date to each line item.
Pick-Up-In-Store	*Pick Up in Store* is a special shipping method intended to serve models in which orders are fulfilled via subsidiary stores.
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 from multiple gift wrap styles for every item in the checkout process. Each gift wrap style can have a cost associated to it.
Gift Messages	If the gift message option is offered, the customer can enter a gift message for every item in the checkout process . The customer can select from different message card styles, which can have different prices.
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.
Redeem Gift 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 certificates can be combined with other payment methods (e.g. invoice) without any restrictions.

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 payment methods (e.g. invoice) without any restrictions.
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	
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).
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.
Payment	The Payment Service Framework and API facilitates seamless integration with third-party payment providers. Payment methods are managed and configured via the Managed Service Framework. Intershop offers integrated abstract payment methods that do not require an external service, such as ISH_INVOICE and ISH_PAY_IN_ADVANCE, along with the ISH Demo Payment cartridge. Furthermore, a range of payment connectors for third-party payment providers is available. Additional payment connectors can also be developed as part of a project customization.
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/Inventory Service	API to retrieve and book the inventory status of products. Using the managed service framework, a developer can easily connect to external services (e.g., warehouse, order management system).

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, 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 can be 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	An e-commerce manager can define the delivery time range per product. The estimation of the expected day of delivery considers this time 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.
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.
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 and adapted to regional settings.
Intershop Commerce Management	Intershop Commerce Management is available in: • English • German (development tools and setup are available in English only) • Other languages can be added via the localization framework.
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 Intershop Commerce Management.
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 to 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, publish content, and manage 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 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 through the channel browser. The channel browser displays all shops and their relationships to each other. It also provides access to the associated front ends. 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 in to the system. An administrator of a partner channel manages sales partners which can be added, modified, and deleted.
Store Management (brick and mortar stores)	Stores offered through the store finder wizard are created and managed by the channel order manager in Intershop Commerce Management. Stores can be created manually or imported from an XML data source.

intershop®

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

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 provided to external reporting systems using the business tracking framework.

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

intershop®

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-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 completely or for the scope of a 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.

High Availability and Clustering

High Availability	
Application Server Management	The number of application servers can be adjusted via the Kubernetes deployment configuration. This allows additional servers to be added on-demand.
Cluster Management	
Application Server Configuration	The configuration of the application servers is controlled centrally. A configuration change can cause server instances to restart.
Web Adapter Configuration	Web Adapter settings, such as settings controlling web caching, session handling, logging, SSL usage, load balancing, can be configured centrally.
Architecture	Intershop Commerce Management has a multi-tier architecture: individual tiers can be expressed by application instances or tiers in applications.
Web Tier	The web tier represents the interface for the user of the application. Depending on the volume and number of requests, the web tier can scale horizontally as well as vertically.
Application Tier	The application tier usually consists of three layers: presentation layer, business layer, and persistence layer.

Presentation Layer	The task of the presentation layer is to adapt the input and output to the appropriate protocol or data format. Here, for example, a JSON response is generated from the information of the business objects.
Business Layer	The business layer contains all domain objects and business processes of the application. Separating presentation layer and persistence layer facilitates the adaptation of business processes.
Persistence Layer	The persistence layer declares the possible persistent state of business objects, and ensures efficient caching and loading of these states.
Data Tier	The data tier consists of a relational database server storing the business objects or processes.
Scaling	An Intershop Commerce Management cluster consists of a number of servers having different tasks. The servers perform tasks for specific business contexts. The scaling of the cluster is subject to several performance identifiers, such as CPU, RAM usage. Scaling tries to achieve an optimum between the resources provided and the costs.
Load Balancing	Load balancing starts at the web tier where requests are being transferred to the best possible application server. The load balancing algorithm used can prefer the most responsive application server.
Session Management	
Sessions	Intershop Commerce Management provides a session mechanism to maintain the state over a series of requests from the same user across a period of time (for non-REST requests). Sessions are represented by session IDs, stored as session cookies. Multiple cookies are used in order to distinguish the login state from the browser session.
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 (Additional Option)

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 separate Intershop Commerce Management systems, e.g., an editing system 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. 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, price lists) 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 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 replication processes not competing for resources can be executed in parallel.

Platform

Project Extensions	
Support of Project-Specific Cartridges	The build management is based on the standard tool Gradle. The entire process can easily be extended to customer projects. Project-specific cartridges can be created and assembled in customizations. The deployment configuration can contain multiple customizations which are merged when the application instance is launched.
Process Scheduler	

Process Schedules	Processes (pipelines) can be scheduled for one-time or recurring execution. For a more fine-grained control over job execution, jobs can be scheduled to run when it is most convenient (inside or outside business hours). 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.
REST Interface	Process schedules can be triggered from a REST interface.
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 creating a transport configuration with protocol, login, password, and path etc., it is possible to integrate the configuration into a job so that it can be called periodically. This job can then be integrated into process chains to perform, e.g., an automated file import from an external file location.
Cloud	
Microsoft Azure	Intershop supports Microsoft Azure infrastructure, specifically Azure Kubernetes Services.
Frameworks	
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-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 server 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	Developers can define new sources for a configuration. The deployment configures the specific sources of configuration. 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 Intershop System Management. Configuration Export - The configuration can be exported in Intershop System 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 user interface. 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 logging framework integrated into Intershop Commerce Management generates detailed log information and can integrate third-party APIs (Apache log4j etc.) into its logging framework.
Presentation Framework	Java Server Pages (JSP) are used to create HTML pages. 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 content management allows for changes in the storefront without consideration of deployment cycles. For REST requests, native Java libraries are used, thus eliminating the need for ISML and JSP.
Web Form Framework	The 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.
User Interface	
Customization	All HTML-based web interfaces, in particular the customer-facing storefronts, can be customized.
REST API	REST APIs are available for the development of modern external user interfaces.
Logging & Metrics	

System Logging	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 appenders. System information is output via standard output so that external logging agents can easily retrieve it. The output is in JSON format.
Metrics	Intershop Commerce Management provides various metrics, such as cache statistics, via a Prometheus interface.
Site Management	
Site Preferences	Using Intershop System Management, 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	In the *Page Cache* tab, system administrators configure the page cache behavior of the site. In addition to the global page cache activation, this includes the following settings: • Time period for which static content is preserved • 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 is provided.
File System	
File Browser	System administrators can browse through various shared directories from different servers of a cluster.
Monitoring	
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.
Performance	Performance figures regarding runtime of pipelines, pipelets and templates for the cluster and its components are provided.
Session	Information about new sessions is provided.

Documentation

Business User Guides	The user documentation is provided in the online help at [Intershop Documentation Center](). This documentation is also linked from the back offices and can be downloaded from the Intershop Knowledge Base.
Developer and Administrator Documentation	The Intershop Knowledge Base contains all relevant information for developers and administrators working with Intershop Commerce Management.

Continuous Delivery

Artifact Server	The Intershop software and updates are delivered via the public binary repository Nexus. This enables a seamless integration of Intershop software components into the project environments.
Docker Registry	All applications and customizations are provided as Docker containers. For the development environment, a Docker Registry is provided which the implementation partner has access to.
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 Azure DevOps.
Test Automation	Frameworks and tools to support test automation at all levels of testing: • User interface tests - are based on HTML Unit, Selenium and PhantomJS • REST tests - are based on the Geb & Spock framework • Service/integration tests - These tests are based on JUnit and enhanced with JUnit extensions. The tests are executed in a server-like environment. • Unit tests - These tests are independent of a server environment and are based on JUnit.
Deployment	The deployment is controlled via Helm charts. These are currently maintained and provided via GitHub: https://github.com/intershop/helm-charts/tree/main/charts

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.
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).
Administration	
Business Management Tool Authentication	Users of a sales organization can log in to 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 Commerce Management.
Last Login Date	The date/time of each user's last login is stored in the database. Commerce Management users can see the date of their last login in the back office. 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 back office 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.
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 to the system, updates the own 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.

API

API	
REST API Framework	A Framework for Composition of new REST APIs (based on Jersey) is available. With this RESTful API it is possible, for example, to easily build native smartphone apps 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 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. 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.

System Requirements

For information on system requirements, refer to [System Requirements - Intershop Commerce Management 13].