



SAP® Customer Experience

SAP Commerce Cloud

Services Description

Version 1911

PUBLIC

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Section 1

Scope

This Services Description is applicable for SAP Commerce Cloud on Public Cloud.

The Services Description and the Technical and Functional Specifications for SAP Commerce Cloud on SAP infrastructure (on hypervisors) within datacenter groups A and B can be found under **References & Support** [here](#) (Customer access only).

Section 2

Context and Glossary

This document provides additional information regarding cloud services for the SAP Commerce Cloud solution provided by SAP, pursuant to the Agreement for the SAP Commerce Cloud between SAP and the Customer.

This Services Description is referenced in the Agreement.

GLOSSARY

Customer System Administrator is a role within the Cloud Portal that represents the Customer's primary technical contact.

Cloud Portal is the self-service portal used for managing Customer's SAP Commerce Cloud subscription.

RPO (Recovery Point Objective) means the maximum tolerable period in which Customer data might be lost due to a disaster (e.g. time between last backup or last data replication and point in time a disaster occurred).

RTO (Recovery Time Objective) means the duration of time in which the Production environment of the Cloud Service is unavailable in a disaster case (e.g. time between a disaster and point in time the systems are available again).

Disaster means an event of substantial extent causing significant disruption of the delivery of the Cloud Service and may include physical damage or destruction to the Production datacenter. Disasters can be natural disasters (such as floods, hurricanes, tornadoes or earthquakes) and/or human-induced disasters (including hazardous material spills, infrastructure failure and bio-terrorism). A disaster is typically not limited to one individual system or landscape but larger parts of an infrastructure.

Business Day is any weekday the supporting SAP offices are open for regular business.

Performance Profile is a benchmark of the overall system performance, including, but not limited to, the time it takes to load webpages in the user's browser, average CPU and memory usage.

SAP Customer Automation Zone is the SAP software resource that automates and orchestrates the provisioning and operation of the customers' Commerce environments and subscriptions. Internal SAP access only.

Section 3

Cloud Onboarding

3.1 Introduction

An SAP Commerce Cloud subscription will be provisioned on behalf of the Customer in its target datacenter within 3 Business Days following the Product Start Date specified in the Order Form.

The designated Customer System Administrator will receive an automated email with instructions for registering with the Cloud Portal once the order has been provisioned, as well as details for gaining access to the documentation and support materials for using the Cloud Portal and SAP Commerce Cloud.

The Customer System Administrator and nominated delegates are responsible for ongoing user management via the Cloud Portal.

3.2 Service Delivery Support

Customers will receive support from Service Delivery Representatives during project's kick-off and crucial periods prior to and following their Go-Live. With the goal of ensuring a successful Go-Live, Service Delivery Representatives will set up meetings, follow up on tickets, allocate resources and verify the achievement of important milestones to assess cloud readiness.

Leading up to the Go-Live, a Service Delivery Representative will review the customer's Go-Live checklist and help mitigate and promptly solve any incidents that may risk Go-Live success. After Go-Live they will support, on demand, critical incidents.

Note: Services are provided during business hours in the time zone of the assigned regional support office.

3.3 Cloud Readiness Check

The Cloud Readiness Check is a set of quality gates provided by SAP to help ensure the overall quality of the Customer's packaged customized code solution, before it is deployed. It includes basic reviews in areas of design and code. The Customer must go through the Cloud Readiness Check before Go-Live.

Following the Product Start Date specified in the Order Form, SAP will contact the Customer to schedule the Cloud Readiness Check review gates. Over the course of the Cloud Readiness Check, SAP will perform a series of reviews covering:

- Solution design
- Code quality
- Data maintenance policy
- Application-level security
- Performance metrics

NOTE: The Cloud Readiness Check ensures that extensions to the SAP Commerce Cloud application do not materially degrade the Performance Profile of the application and is not a substitute for performing best-practice quality assurance as part of ongoing delivery of the Cloud Service. The following items are out of scope:

- Any form of performance and penetration testing
- System or application fixes as a result of the review performed
- Advanced review of application architecture, order management system, cart, payment system provider, search, navigation, internationalization, session management and other third-party integrations
- Manual source code analysis, use of SAP Commerce Cloud APIs and back-office configuration
- Design of performance goals and test plans, test execution and bottleneck analysis, system tuning

3.4 Backoffice Connectivity

Customers can establish connectivity between SAP Commerce Cloud environments and their backend systems (e.g. ERP) via IP filtering and site-to-site VPN.

To initiate this connectivity, the Customer must ensure that their VPN device is on the approved list of compliant devices (which can be found in the VPN gateway documentation on the Microsoft Azure website) and open a ticket accordingly on the SAP Support Portal.

3.5 Platinum Upgrade Program

The Platinum Upgrade Program is included in SAP Commerce Cloud, professional edition. This service ensures that Customers stay up-to-date with the latest SAP Commerce Cloud product releases through annual platform upgrades scheduled around the Customer's business cycles and roadmap plans. For further information, see Appendix A.

Customers of SAP Commerce Cloud, standard edition will be responsible for ensuing upgrades to the appropriate versions are implemented.

Section 4

Management of Portal Services

The hosting platform resides on fully redundant cloud infrastructure operated by Microsoft Azure (with the exception of the Cloud Portal which runs on the SAP Cloud Platform).

4.1 Cloud Portal

SAP Commerce Cloud provides a self-service portal (the Cloud Portal) through which the Customer or its nominated Partner is responsible for:

- Connecting their Git-based code repository to SAP Commerce Cloud
 - This includes configuring the relevant access control mechanisms on their Git-based code repository.
 - Enabling connectivity from SAP Commerce Cloud to the Customers code repository
- Triggering the build process
- Configuring / initiating deployment of builds to environments
- Configuring the environments, including:
 - Creating a build
 - Defining application endpoints (public and internal)
 - URL redirects
 - Configuring SSL certificates
 - Initiating data snapshots at necessary points in time
 - Initiating data snapshot restores (such as part of rollback)
 - User Management
 - Configuring firewall rules via IP Filtersets
- Scheduling Environment Upgrade
- Integrating SAP Cloud Platform Extension Factory (SAP Cloud Platform integration now adds the ability to build and deploy microservices based extensions to SAP Commerce Cloud for easier customization without compromising upgradability)

If any of these features are unavailable on the Cloud Portal, a Service Request can be raised by the Customer for assistance in completing the required action.

4.2 Environments

Customers are provided with three environments: Development, Staging and Production. Additional environments can be purchased as add-on services.

All environments are composed of Kubernetes clusters distributed across multiple virtual machines.

All server clusters and their allocated resources (CPU/RAM) in all environments are managed exclusively by SAP. Customers should use the Cloud Portal as the sole interface for managing their SAP Commerce Cloud environments.

SAP Commerce Cloud does not provide terminal access to the servers or access to underlying cluster management tools.

4.2.1 DEVELOPMENT

A development environment is a fully-functional instance of SAP Commerce Cloud intended for day-to-day development and deployment activities, ad-hoc and automated testing (excluding performance testing). All services that comprise the SAP Commerce Cloud solution are deployed in the development environment.

Development environments use Standard tier Azure SQL Databases.

Development environments are not restored as part of a disaster recovery.

4.2.2 STAGING

A staging environment provides the same Performance Profile as the Production SAP Commerce Cloud application in order to enable basic performance testing.

Staging environments use Standard tier Azure SQL Databases.

Staging environments are not restored as part of a disaster recovery.

4.2.3 PRODUCTION

Production intentionally distributes deployed services across multiple availability sets to ensure maximum reliability of service.

Production environments use Premium tier Azure SQL Databases.

Production environments are fully restored after a disaster recovery.

4.3 Storage

4.3.1 DATABASE STORAGE

Azure SQL Database provides the following space:

- 500 GB for Production databases
- 250 GB for Staging and Development databases

4.3.2 DISK STORAGE

Application servers do not have persistent hard drives attached and therefore use cloud storage for files required to exist beyond the lifetime of the SAP Commerce Cloud instance.

4.3.3 CLOUD STORAGE

SAP Commerce Cloud allocates 5TB of general use cloud storage. This storage is used for:

- Imported data files (using clustered hotfolders)
- Uploaded content files (media imports)
- System snapshots
- System artifacts generated from builds
- Log files & monitoring data

Customers will be notified if capacity reaches 80% and at 5% intervals above this.

4.4 Bandwidth & Data Transfer

Outbound data transfer and bandwidth required to support the SAP Commerce Cloud service are included in the SAP Commerce Cloud subscription cost.

4.5 Scalability

In order to maintain Service Level Objectives, the support team will initiate a scaling event in cases where increased capacity can resolve an application alert.

As a best practice, when the Customer is planning marketing activities that are anticipated to generate an exceptional increase in visitors to its website, the Customer should notify SAP at least 3 Business Days in advance to ensure adequate resources are provisioned and to avoid performance lag.

Section 5

Observability, Monitoring and Performance Management

SAP Commerce Cloud uses a third party monitoring tool. This is a full-stack solution which provides a single approach to observability, monitoring, application performance management (APM) and digital user experience management (DEM). This solution is integrated with SAP support systems. Each component in the Customer's environment is equipped with an agent to provide a full view on the setup, covering infrastructure, containers, process level, service level, application level as well as end user activity and insight.

Various metrics across the entire SAP Commerce Cloud stack are automatically collected and correlated for problem and performance analysis.

5.1 Infrastructure, Virtualization and Container Technologies

The monitoring agent automatically collects system metrics for the virtual machines which are providing the lowest level of the infrastructure (container services/Kubernetes). The health of hosts and containers is derived from various metrics which are also correlated with key metrics from processes, services and applications executed within these containers.

5.1.1 HOSTS AND VIRTUAL MACHINES

The basic metrics on the lowest level of the Customer's infrastructure (hosts/VMs) can be categorized into 5 groups: Availability, CPU, Disk, Memory and Network.

Detailed information on these metrics and additional meta-information for hosts/VM components can be found in the *Monitoring* section on help.hybris.com.

5.1.2 KUBERNETES AND CONTAINERS

For containers, the individual resource consumption per container is collected: CPU, Memory, Traffic and Throttling.

For containerized processes, the monitoring allows ad-hoc access to the current container logs within a limited timeframe.

Detailed information on these metrics and additional meta-information for containers can be found in the *Monitoring* section on help.hybris.com.

5.2 Monitoring Solution and Application Components

The monitoring solution automatically detects the process types running on a host or within a container. The deep technology support allows to automatic detection of the process type and runtime it is executing on. Additionally, the tool monitors relevant key performance indicators for the Java Virtual Machines that are hosting the application components and for the application server itself.

For processes without deep instrumentation support, the tool will report metrics it can determine from the operating system.

5.2.1 OS-LEVEL PROCESS KPIS

These basic process KPIs (System Performance) are collected for every process type: CPU, Responsiveness, Memory, Worker Processes and I/O.

5.2.2 JAVA RUNTIME SPECIFIC KPIS

For every process that uses the Java runtime, monitoring captures Java specific KPIs and the AI uses them for problem correlation and causation. Java specific differences like those used for GC strategy and memory pool configurations are detected automatically.

The Java metric group includes suspension, young generation memory pools, old generation memory pools, survivor space, meta-space, code cache, compressed class space and threads.

Detailed information on these metrics and additional meta-information for Java processes can be found in the *Monitoring* section on help.hybris.com.

5.2.3 WEBSERVER PROCESS SPECIFIC KPIS (E.G APACHE HTTP)

For detected Webserver processes, the monitoring agent automatically captures KPIs and the AI uses them for problem and performance correlation.

The Webserver metric group contains: requests, response size, busy workers and request queuing time.

Detailed information on these metrics and additional meta-information on Webservers monitoring can be found in the *Monitoring* section on help.hybris.com.

5.2.4 APPLICATION SERVERS PROCESS SPECIFIC KPIS (E.G APACHE TOMCAT)

For detected application server processes, the agent automatically captures KPIs that are provided by the application servers out of the box.

The application server metric group contains threads and web requests.

Additional meta-information for application servers can be found in the *Monitoring* section on help.hybris.com.

5.2.5 OTHER PROCESS AND TECHNOLOGY TYPES

The monitoring solution supports various process technologies within SAP Commerce Cloud. For these technologies, relevant metrics captures are captured automatically.

For example:

<ul style="list-style-type: none">• apachehttp• dockerdemon• dotnet• erlang	<ul style="list-style-type: none">• glassfish• haproxy• java• linuxsystem• memcached	<ul style="list-style-type: none">• nginx• nodejs• perl• php	<ul style="list-style-type: none">• python• redis• ruby• tomcat• varnishcache
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5.3 Services

The monitoring solution automatically detects services provided and used within the Customer's SAP Commerce Cloud buildout (e.g. a storefront service, custom API services). A service is provided by a redundant number of backend components. These services are automatically analyzed and considered for the AI problem analysis and dependency correlation.

The solution automatically detects and monitors these service types: Database, messaging, method, mobile, process, rmi, webrequest, webservices, website and external services.

Service KPIs are: Response time, failure rate, CPU usage, throughput, SQL transactions, SQL modifications, SQL queries or procedures. These are provided where applicable.

The solution also distinguishes between different service entry points or usage of these services and monitors these automatically. Not only does it provide the above mentioned KPIs and insight to services that are directly provided to end users (entry point services) but also external services (external dependencies) and background activities (e.g. execution of jobs).

5.3.1 ENTRY POINT SERVICES

An entry point service is a service that is directly called by either a human (e.g. through a storefront or website) or an unmonitored external service that is calling any API or endpoint on the platform. These services are automatically detected and baselined accordingly. The monitoring solution calculates the above mentioned KPIs and uses that information in its AI for problem and performance analysis and dependency correlation.

Furthermore, the tool tracks every single request to entry point services and identifies dynamic (application logic) and resource (static content like images, css, js files) requests. Both types are automatically analyzed for performance impacts and hotspots.

5.3.2 EXTERNAL DEPENDENCIES

In scenarios where the application depends on external services that are not operated by SAP offerings (e.g. an external payment provider), the solution will automatically detect those dependencies and track calls to them. This allows the identification of dependencies and the impact of the external service on the Commerce environment. The tool considers external services in its AI for problem and performance analysis and dependency correlation.

5.3.3 BACKGROUND ACTIVITY

As the Commerce applications might execute activities in the background (e.g. executing scheduled jobs), the monitoring solution will track these for performance and problem analysis. These background processes are detected automatically, especially when calling other services (e.g. external services).

5.3.4 DATABASE SERVICES

The monitoring solution automatically detects database services from the application side and individual transactions (SQL transactions, modifications, queries and procedures) when executed and tracks the performance, the exact statement (without bind variables), execution hotspots, response times, database errors and result set size.

5.4 Deep Transaction Analysis and Application Performance

Management

The monitoring solution provides full-stack visibility into all vertical components (hosts, VMs, containers, processes, services and applications), and also into every transaction that is executed in the environment (e.g. every single web-request triggered by a user or every API call). This information provides real time code-level visibility and allows deep transaction analysis. This makes it possible to perform typical APM tasks and provides vital information on the performance of the site.

This transaction analysis makes it possible to spot application errors caused by code or service dependencies which would otherwise go unnoticed. The deep transaction analysis is always on in all environments and the information gathered is used by the AI for analysis and problem correlation.

5.5 AI-Based Problem Detection, Alerting and Root Cause

Analysis

All the beforehand described metrics, analysis, KPIs and deep transaction analysis are used by the AI in real time to detect potential problems early and create notifications. These notifications are not single violations of thresholds but the result of the correlation of thousands of dependencies that exist in the environment. By automatically analyzing these complex dependencies and adapting to dynamic changes, the user gets precise information and - where applicable - an automatic root cause analysis.

5.6 Global Availability Monitoring

SAP utilizes globally distributed monitoring agents to check the availability, response and load time of one customer-provided URL per Production environment.

Global Availability Monitoring is enabled by the Customer when the 'Go-Live ' function has been activated in the production environment.

5.7 Reports

An SAP Commerce Cloud report will be provided on a monthly basis as required. The report will cover the Customer's website performance for the previous month and will include website availability and infrastructure availability.

Section 6

Maintenance Activities

6.1 Customer Managed Scheduled Environment Upgrades

Customers will receive a notification in the SAP Commerce Cloud Portal with highlights of the latest release benefits. Following a new release, Customers can schedule a time and date for the reprovisioning of the environments for activating the new released features. Customers can also choose whether to upgrade individual environments separately, or all environments at once.

6.2 SAP Scheduled Upgrades

SAP is fully responsible for any release upgrade in the 'Commerce Cloud Automation Zone' as well as the 'Commerce Cloud Portal' and is following the SAP maintenance windows guidelines.

Section 7

Database Services

SAP Commerce Cloud uses Azure SQL Database. Each provisioned environment includes a dedicated Azure SQL Database. Database configuration, including schemas, is limited and isolated to ensure successful operation of the SAP Commerce Cloud application. The service features all capabilities related to infrastructure, patches, snapshots, restores, high availability and global redundancy, supported and maintained by SAP. Direct database access by Customers is not permitted.

7.1 Standard Database Operations

The Customer is responsible for creating data snapshots and data restores in line with its deployment processes. This can be initiated from the Cloud Portal. Before making production deployments it is highly advised to create a data snapshot. This will enable a data restore if a rollback is required. On-demand database backup and restore services can be initiated from the Cloud Portal.

When manual database updates / modifications are required, these may be requested via the Support Portal. The following standard database procedures can be initiated by raising a ticket with SAP:

- Support on production, staging and development environments
- Emergency triage of application query problems
- All requests for manual database updates, modifications or restore procedures should be raised through a ticket.

Service Recovery

8.1 Backups & Restore

In the event of data loss or data corruption, the Cloud Service provides the following data recovery mechanisms:

8.1.1 DATABASE

Azure SQL Database performs automatic backups of all databases on the following schedule:

- Full database backups occur weekly
- Differential database backups occur hourly
- Transaction log backups occur every 10 minutes

Database backups are stored in geographically redundant storage for 35 days and encrypted using 256-bit AES symmetric keys.

- RPO: 1 hour
- RTO: 12 hours

8.1.2 FILE STORES

Every object stored to cloud storage is persisted multiple times across the primary and secondary datacenter in a region.

- RPO: 0 seconds
- RTO: 0 seconds

8.1.3 APPLICATION SERVERS

Application servers are defined as immutable Docker images and do not require backup processes because they can always be recreated from the image.

In addition:

- Application-specific configuration is included in the Docker image.
- Environment-specific application configuration is stored in the configuration management database.

Important files that should be persisted beyond the lifetime of an application server should be stored on cloud storage.

- RPO: 0 seconds
- RTO: 15 minutes

8.1.4 DISASTER RECOVERY

To enable Disaster Recovery, every service region for SAP Commerce Cloud is comprised of primary and secondary datacenters in geographically separated locations.

Standard Service

The Standard Disaster Recovery service restores the database from a geo-replicated backup. Recovery time is therefore subject to database size, network latency and database restore time.

Service Objectives

RPO: 1 hour

RTO: 24 hours

Scope

The database is restored from the geo-replicated automated backup.

File Stores are available in Read-only configuration in the secondary datacenter.

Connectivity settings from the primary datacenter will be mirrored in the secondary datacenter.

Restrictions / Limitations

Only Production Environment. The scope only includes Production Environment. Non-production environments are not replicated. The Customer is responsible for DNS failover to the recovery site domain and testing of the Production Environment on the recovery site provided by SAP before the re-launch of the Customer's web presence for productive use.

Reduced Support SLAs. With the exception of P1 support incidents, all lower severity requests will be treated with reasonable effort during a Disaster.

Section 9

Security and Compliance

SAP's Cloud Security Framework and Personal Data Processing Agreement for SAP Cloud Services describe the security controls and measures provided for SAP Cloud Services.

Section 10

Roles and Responsibilities

The following roles and responsibilities shall apply to the cooperation between SAP, the Customer and the Customer's implementation partner. As between the Customer and SAP, only those responsibilities with an "R" assigned to SAP shall form part of SAP's obligations. All other responsibilities shall be deemed part of the Customer's obligations.

Responsible (R), Accountable (A), Consulted (C), Informed (I)

ACTIVITIES	SAP	CUSTOMER /PARTNER	CUSTOMER
Account Management			
Manage relationship with Implementation Partner			R/A
Traffic volume forecasting (peaks)	C	C	R/A
Service Delivery - Project Initiation Phase (2 weeks post contract term start date)			
Project Kick Off meeting to present the services	R/A	I	I
Proactive supervision on critical tickets	R	C/I	C/I
Facilitation of the Cloud Readiness Check service	R/A	C	C
Service Delivery - Project Delivery Phase			
On demand support for critical tickets	R	C/I	C/I
Service Delivery - Project Transition Phase (2 weeks prior and 2 weeks following Go-Live)			
Delivery and Go-Live checklist review with the Customer	R/A	C/I	C/I
On demand support for ongoing critical incidents risking the Go-Live	R	C/I	C/I
Initiate and complete internal Go-Live preparation activities	R/A	I	I
Infrastructure and Server Management			
Server management (all servers) up to and including the OS	R/A	I	I
Server OS patch management	R/A	I	I
Cloud Network management	R/A	I	I
Cloud Customer Zone Network management	R/A	I	I
Server and application provisioning (Dev, Staging, Production)	R/A	I	I
Automated deployment of software releases (Dev, Staging, Production)		R	A
Initial and ongoing Customer-specific application configuration and management			R/A
Backup Capabilities	R/A	C	C
Platform patch management	R/A	I	I

ACTIVITIES	SAP	CUSTOMER /PARTNER	CUSTOMER
Monitoring			
Infrastructure monitoring of all servers (Memory, CPU, disk)	R/A	I	I
Website availability monitoring	R/A	I	C
Capacity monitoring of all servers	R/A	C	C
Security			
Security Control governance provided for the production Environment of SAP Cloud Solutions	R/A	I	I
Inbound/Outbound IP filtering rules	I	I	R/A
Access security (VPN)	R/A	R	R
Application security vulnerability, penetration testing and application security auditing	I	C	R/A
Secure custom application development	I	R	A
Security incident management related to environment	R/A	C	C
Application security vulnerability, penetration testing and application security auditing	I	C	R/A
Secure custom application development	I	R	A
Security incident management related to environment	R/A	C	C

ACTIVITIES	SAP	CUSTOMER /PARTNER	CUSTOMER
Database Management			
Database configuration	R/A		
Database backup and restore (Cloud Portal)		R/A	C
Database monitoring	R/A	I	I
Application Development / Deployment / Testing			
Development of new code		R/A	C
Deployment to all environments	I	R	A
User Acceptance Testing	I	C	R/A
Overall application quality assurance	I	R	A
Load and Performance testing	C	R	R/A
SAP Commerce upgrades (excl. Platinum upgrades)	I	R/A	C
Support & Incident Management			
First line support – for infrastructure support issues	R/A	C/I	C/I
Creation of a new incident based on automated alerts or support requests by phone or email from Customer or application support partner	R/A	I	I
Capturing of incident details	R/A	I	I
Categorization of incident	R/A	I	I
Prioritization of incident	R/A	I	I
Investigation and diagnosis of incident	R/A	I	I
Assignment of incident to appropriate support group within SAP or to Application Support partner for resolution	R/A	I	I

SAP Platinum Upgrade Program

1. Scope Definition

SAP will provide a set of services to the Customer to upgrade the version of the SAP Commerce Cloud application that the Customer is using.

This set of services provides the Customer with a temporary development environment upgraded to the target version of the SAP Commerce Cloud application, including dependencies and SAP-supported extensions. SAP will deploy configurations and extensions provided by the Customer to the target platform.

Refactoring or modification of Customer configuration and extensions to work on the upgraded application is not included in the Platinum Upgrade Program. The Customer can work with SAP (for additional fees), a third party, or provide self-service modification of all configuration and extension elements that require any remediation and/or refactoring.

A report outlining the necessary refactoring will be provided following the Technical Upgrade Analysis.

2. Components

The SAP Platinum Upgrade Program is composed of the following four components:

- Upgrade Benefits Assessment
- Technical Upgrade Analysis
- Platform and Database Upgrade
- Go-Live Quality Review

2.1 UPGRADE BENEFITS ASSESSMENT

The Upgrade Benefits Assessment service will provide the Customer with a summary report detailing customer-specific benefits for upgrading under each of the following pillars:

- Functionality
- Innovation
- Simplification
- Integration
- Support

How it works

A 3 day engagement performed by an SAP application consultant. It will include a workshop for the Customer business and IT teams.

Scope

- **Extension and Customization Analysis:** A review of the Customer's current extensions and customizations in order to determine what could be replaced by out-of-the box functionality in the target platform version.
- **Storefront Evaluation:** Evaluation of the storefront to identify areas where enhanced or new out-of-the-box functionality could be implemented.

- **Functional Workshop:** A collaborative workshop to evaluate enhanced and new application functionality in order to identify key features that could benefit the Customer's business. During the workshop there will be a review with the Customer business owners and/or subject matter experts to perform a high-level requirements and cost/benefit analysis.
- **Net New Functionality Recommendations:** Recommendations regarding net new out-of-the-box functionality that could benefit the overall business case.
- **Refactoring Recommendations:** Recommendations regarding extension and customization areas that could be eliminated or minimized by leveraging new out-of-the-box functionality.

2.2 TECHNICAL UPGRADE ANALYSIS

The Technical Upgrade Analysis involves a deep technical investigation into the Customer's current SAP Commerce Cloud implementation and a step-by-step upgrade simulation to collect detailed information on all issues encountered and to produce an estimation of the total effort required to execute the platform upgrade.

How it works

A 2 - 3 weeks engagement performed by SAP application expert(s) on a remote basis. It involves the setup of an analysis environment using the delivered upgrade artifacts following the implementation-specific installation guide provided by the Customer or its implementation partner. This is followed by a step-by-step migration simulation, comprising of:

- Analysis of all extensions present in the solution and creation of a detailed list of extensions with additional information
- Analysis of dependencies between all extensions which are present in the solution and creation of an extensions dependency diagram
- Building the code base and collection of detailed notes on all encountered issues
- Application start-up and collection of detailed notes on all encountered issues
- Running SAP Commerce Cloud built-in "update running system" operation on the running application and collection of detailed notes on all encountered issues
- Preparation of analysis outcome report

Following the analysis, the outcome report will contain the following information:

- Initial application upgrade scope definition
- Technical challenges - issues that must be fixed during the application upgrade (SAP's responsibility)
- Improvement areas - cleaning up of outdated code, removal of legacy modules, SAP Commerce Cloud type system and data cleanup, possibly leading to performance improvements (Customer's responsibility)
- High-level project plan and cutover timeline, agreed with the Customer
- Detailed list of Customer responsibilities - as well as refactoring and user acceptance testing, this includes integration testing to any back-end system or third-party service end-points

Scope

To set up an upgrade environment and simulate the upgrade process, including:

- Configuration upgrade and gap analysis between current and target versions
- Analysis of all extensions which are included in the Customer solution and dependencies between them
- Building the code base
- Running the SAP Commerce Cloud built-in initialization operation
- Application start-up
- Running the SAP Commerce Cloud built-in "update running system"

2.3 PLATFORM AND DATABASE UPGRADE

The Platform Upgrade component delivers to the Customer a development / testing environment with the target upgraded version of the SAP Commerce application installed. This includes the upgrading of any necessary dependencies.

It also includes the installation of the Customer extensions and configurations so that the SAP Commerce Cloud application builds and successfully starts.

How it works

A 4 - 6 weeks engagement performed by SAP application expert(s) on a remote basis using the following milestones:

- Platform is buildable – All upgrade compilation errors are fixed, there is a success message after compilation of the Customer code on the target platform version
- Platform is startable – all configuration and context problems are fixed, there is a success message after system startup, Hybris Administration Console (hAC) is accessible
- Test data is deployed to the environment
- Update is applied to the database
- Customer verifies solution (by testing against upgraded database)
- Customer fixes issues related to extension or modification. SAP application expert(s) will assist in troubleshooting and make recommendations for fixing the issues. If all tests are successful, the patches will be applied to production
- Any refactoring carried out will need to go through the Go-Live Quality Review before being promoted to production.

Scope

The provision of an Upgrade Development environment using the target application version with the Customer implementation built, deployed and started on it. It does not include any user acceptance, regression or performance testing.

In order to ensure optimal performance of the Cloud Service, the Customer must implement any required refactoring identified during the Technical Upgrade Analysis and anything discovered during the user acceptance, regression and performance testing conducted by the Customer.

- Cloud Development Environment provisioning with an out-of-the-box installation of SAP Commerce Cloud, installation of database and dependencies
- Source code compilation / build in the Development Environment: Remediation of extension code against dependencies and the target application to achieve successful compilation and build the deployment to Development Environment
- Identification of outstanding issues and provision of recommendations: Customer extensions and configurations may not work and may need to be refactored as per the technical upgrade analysis

2.4 GO-LIVE QUALITY REVIEW

This is a component conducted by SAP application consultant(s) to verify code quality and compliance with SAP standards and best practices of any remedial or refactoring work.

How it works

A 5 day remote engagement performed by SAP application consultant(s), reviewing the modifications made for critical issues that would impact stability, SLAs, or security in the SAP Commerce Cloud environment. A review document outlining findings and recommendations is delivered.

Scope

A review of all source code modifications to ensure that SAP best practices have been adhered to and that the overall code quality of the implementation has not been compromised. Manual and automated source code quality checks will be made, along with recommendations for any outstanding issues that require remediation.

- Static source code analysis - Analysis of the code base using automated tooling
- Data model analysis - Automated check of the SAP Commerce Cloud Type System using specific rules developed by SAP
- Manual source code analysis - To identify application logic and/or design issues
- Correct usage of SAP Commerce Cloud APIs

3. Assumptions and Exceptions

The following guidelines apply to the scope and should be or completed in advance of the analysis and preparation phase of the Platinum Upgrade Program:

- The target SAP Commerce Cloud version is identified as the latest available by SAP Commerce Cloud at the time of commencement of the upgrade project.
- The timing of the upgrade within the contract year will be mutually agreed between the Customer and SAP.
- The Customer may defer commencement of the platform upgrade no longer than 9 months from the initially proposed date for the upgrade activities.
- Following the delivery of the Technical Upgrade Analysis, the Customer has 3 months to complete all refactoring work and user acceptance testing necessary for the upgraded implementation to go live (or to contract SAP to execute the work).
- Customer is eligible for their first Platinum Upgrade twelve (12) months after the SAP Commerce Cloud solution is live in the production environment.

SAP and the Customer agree on the following responsibility matrix of tasks per phase:

Responsible (R)
 Accountable (A)
 Consulted (C)
 Informed (I)

TASK	SAP	CUSTOMER
Cross Phase Tasks		
Check that key users are available for all workshops and service activities as needed	I	R
Upgrade Benefits Assessment		
Supply Customer with service questionnaire	R	I
Satisfactory completion of service questionnaire	C	R
Produce summary report detailing key areas discussed during the workshop, including recommendations for next steps and any areas requiring further analysis	R	I
Technical Upgrade Analysis		
Supply full functional and technical documentation for the implementation	C	R
Supply up-to-date implementation-specific installation guides and dependencies	C	R
Supply up-to-date codebase or access to source control system	C	R
Supply up-to-date database dump, configuration and media directory contents	C	R
Communicate the upgrade approach: Project objectives, timeline, roles and responsibilities	R	R
Provide detailed upgrade analysis report	R	I
Platform and Database Upgrade		
Freeze code development to facilitate upgrade work and testing	C	R
Platform building and starting on target platform version	R	I
Refactoring and remediation of all custom extensions and configuration	C	R
Apply database update once upgrade of custom extension complete	C	R
Resolve any issues from database update	C	R
Perform all regression testing	C	R
Perform all user acceptance testing	C	R
Perform all performance testing and tuning	C	R
Verify solution post testing	C	R
Go-Live Quality Review		
Supply up-to-date codebase or access to source control system	I	R
Produce summary report detailing key areas requiring refactoring or remediation before cutover	R	I
Refactoring or remediation based on results of quality review	C	R



3.1 OUT OF SCOPE ITEMS

Refactoring of customer-specific extensions is out of scope throughout the entire program. The Customer has the option to engage SAP for the refactoring project(s) if desired.

During the 'Upgrade Benefits Assessment' phase, the following items are out of scope:

- High Level Plan and Proposal - High level project plan and scope for technical upgrade and proposal to implement with SAP Consulting

During the 'Technical Upgrade Analysis' phase, the following items are out of scope:

- Performing the actual platform upgrade

During the 'Platform and Database Upgrade' phase, the following items are out of scope:

- Regression and user acceptance testing
- Performance testing and tuning
- Resolving issues due to extension customization

During 'Go-Live Quality Review', the following items are out of scope:

- Any application fixes identified by the review - it is the Customer's responsibility to implement any mandatory or recommended items highlighted by the review. The Customer has the option to contract SAP to perform this work.
- Performance testing

Any items or services not defined as in scope for this Platinum Upgrade Program are deemed out of scope, including, but not limited to the following exclusions:

- Procurement of software licenses (SAP and non-SAP licenses)
- An analysis of as-is business processes
- Content for end user training
- Effort for the use of verification and validation testing processes which may be required by regulatory, industry or governmental requirements

4. Prerequisites

The Customer will ensure the following mandatory key prerequisites are met:

- The current implementation is running in production in an error-free state and without any known technical or performance-related issues
- The Customer supplies up-to-date codebase or access to the source control system
- The Customer supplies functional documentation that describes:
 - All custom extensions
 - Any significant customizations that have been made
 - Any integrations with external systems

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