SAP Hybris

SAP Hybris Commerce Cloud

SAP Hybris Commerce Cloud on SAP Infrastructure

Services Description 2011

PUBLIC

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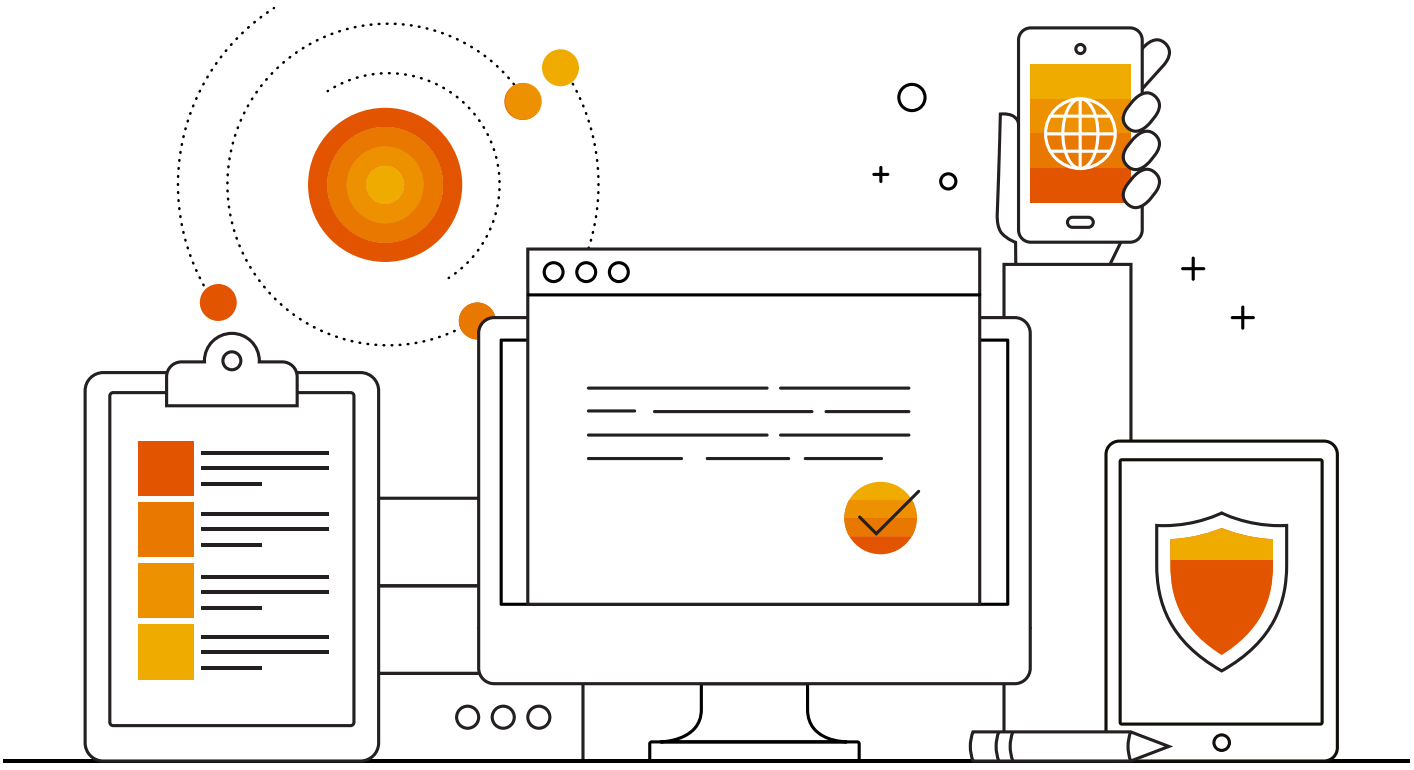
SAP Hybris Commerce Cloud on SAP Infrastructure

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

- "Project Phase" means the activities of the Customer and SAP in the period between the project kick-off meeting and the Go-Live.
- "Go-Live" means the Production environment is deployed and capable of live processing of end-user data.
- "Partner" means a qualified implementation solution provider, an "internal" customer development team or SAP.
- "Deployment" means a customer initiated packaged code deployed from the Development or QA environment to the Staging environment or a packaged code deployed from the Staging environment to the Production environment.

All other capitalized terms shall have the meaning set forth in the Agreement.



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1 Cloud Onboarding

1.1 Introduction

Following the signing of the contract, the project will be initiated by the project management team. A Project Manager will contact Customer to coordinate a kick-off meeting for the project to identify the scope, milestones, communication plan and key project stakeholders. If Customer uses the services of an SAP implementation, third-party system integrator or other Partner, this team is also expected to join the kick-off meeting and subsequent project status meetings.

1.2 Cloud Services

The SAP Hybris Commerce Cloud onboarding process includes the following services:
- Platform and Deployment Services
- Infrastructure Services
- System Management Services
- Security Services
- Monitoring Services
- Cloud Readiness Check Service

Note: During the project phase, all activities are carried out during business hours in the same time zone of the Production environment datacenter.

2 Platform and Deployment Services

SAP Hybris Cloud Services include the provisioning of three environments: **Development, Staging and Production**. They also include the SAP Hybris application deployment services in Staging and Production environments.

2.1 Environment Buildouts

SAP will make commercially reasonable efforts to meet the following targeted schedule (from the project kick-off date) to provide the following environments:

- 1 Development environment – up to 7 business days
- 1 Staging environment – up to 14 business days
- 1 Production environment – up to 21 business days

A business day is any weekday the supporting SAP Hybris offices are open for regular business.

2.2 Code Deployment Services

SAP Hybris Cloud Services includes SAP Hybris application deployment services for Staging and Production environments. Customer is responsible for code deployment on the Development environment only. Deployments will be performed based on standard deployment packages, which include the Customer application code as well as the configuration for the relevant environments. Deployment packages, where self-service is not available, must be delivered to SAP Hybris by the Customer 24 hours in advance before the deployment can be performed (except for emergency hot fixes for P1 related issues). Deployment packages must be compliant with the current version of the SAP Hybris Cloud Service deployment packaging specification.

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3 Infrastructure Services

The hosting platform resides on **high availability, fully redundant infrastructure components**. Web Servers and Hybris Commerce Application Servers are load-balanced on Staging and Production environments.

3.1 Database

The SAP HANA database runs on redundant and segregated virtualized server infrastructure (only in Production). In addition, data is backed-up frequently (as described in the Backup and Restore sub-section).

The SAP Hybris Cloud Service includes the SAP HANA database. No direct SSH or client access to database layer will be provided in any provisioned environments.

3.2 Datacenters

SAP deploys its cloud solutions in controlled datacenters operated by SAP or SAP Partners.

3.3 Backup and Restore

- Only Production environment servers are included in the backup process
- Backups are stored locally and remotely (offsite)
- Local backups occur hourly and remote backups daily (nightly)
- Backups are retained locally up to 7 days and remotely for 30 days

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3.4 Additional Servers Hosting Third-Party Software

Customer can procure satellite servers within any of the environments: Development, Staging, Production. These are typically required to run software or applications that are sensitive to latency/bandwidth and would benefit from running from inside SAP
Hybris Commerce. SAP may allow these third-party software applications to access Customer data as required for the interoperation of the relevant software with the cloud service.

These additional servers are provisioned per environment to allow standardized change management and patching.

Services offered by SAP Hybris for these servers are:

- Infrastructure monitoring
  - » Server up
  - » Server down
  - » Storage availability
  - » CPU consumprion
  - » RAM consumption
- Reboot server(s) if health metrics indicate unhealthy state
- Monitoring alerts and self-service server reboot
- SSH access for support purposes

The Customer is responsible for:

- Providing monitoring end-points as per software specifications
- 24x7 support of these servers, including restarting the hosted services
- Procuring the appropriate licenses for any software installed on those servers
- Patching and maintaining the software installed to supported and secure versions in a timely manner (according to the SAP patching timeframe)
- Implementing appropriate security controls and technical safeguards as rigorous as accepted industry practices, in order to protect confidentiality and integrity of any data stored on those servers

For more information on additional servers hosting third-party software, please refer to **Additional Servers Hosting Third-Party Software Applications** here**.**

Note: SAP is not responsible for any negative effects on the cloud service, nor any disclosure, modification or deletion of Customer data, caused by the third-party applications or web services offered by third-party providers. Additional servers are not covered under the Service Level Agreement for SAP Cloud Services. An architecture review by SAP technical teams is required before authorizing the use of additional servers hosting third-party applications.

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4 System Management Services

4.1 Operational Activities and Standard Checks

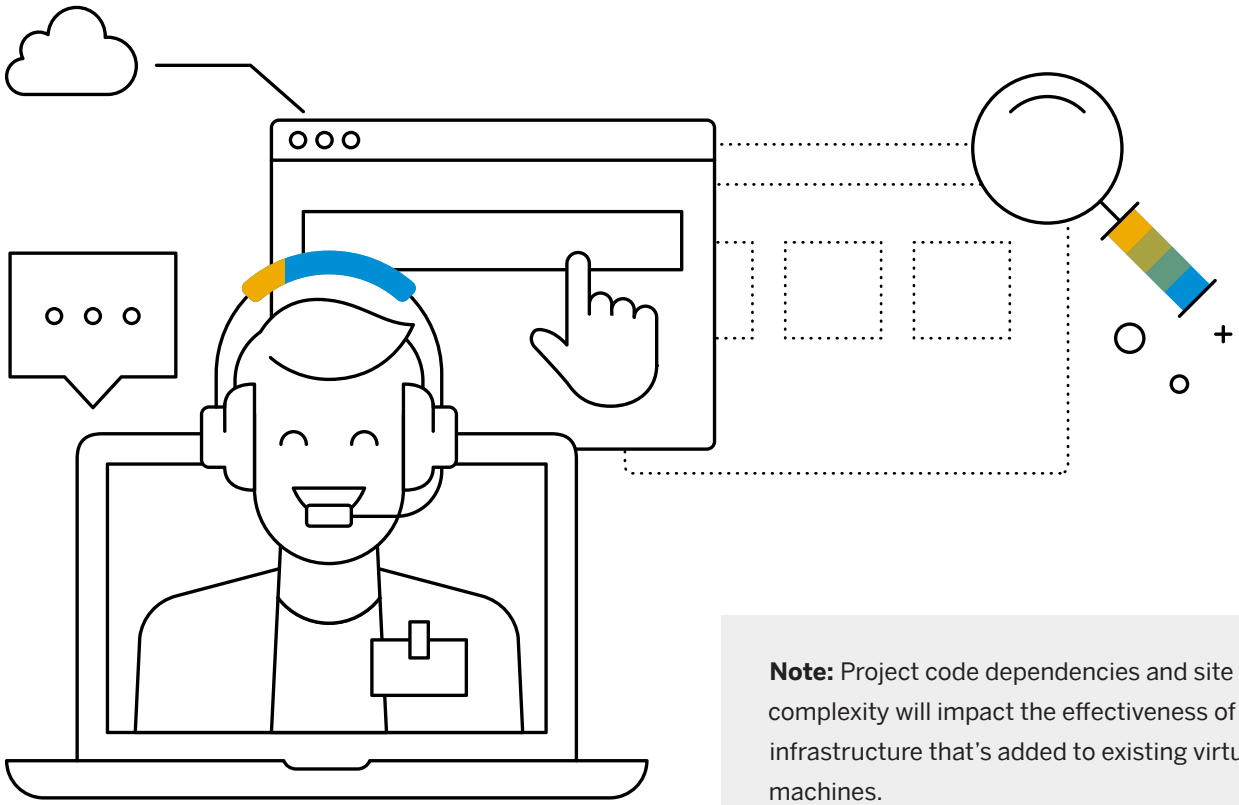
SAP Hybris Cloud Services performs the following activities and checks on the hosted platform and underlying hardware:

- Server management
- OS patching
- Proactive maintenance services

4.2 Vertical and Horizontal Scaling

The SAP Hybris Commerce Cloud onboarding process includes the following services:

- Horizontal Scaling: typically used for "planned" surge events (e.g. marketing campaigns)
- Vertical Scaling: allows SAP Hybris Cloud Services to increase the physical capacity of the site, by adding cores, app, search and database servers (as required)



Note: Project code dependencies and site complexity will impact the effectiveness of additional infrastructure that's added to existing virtual machines.

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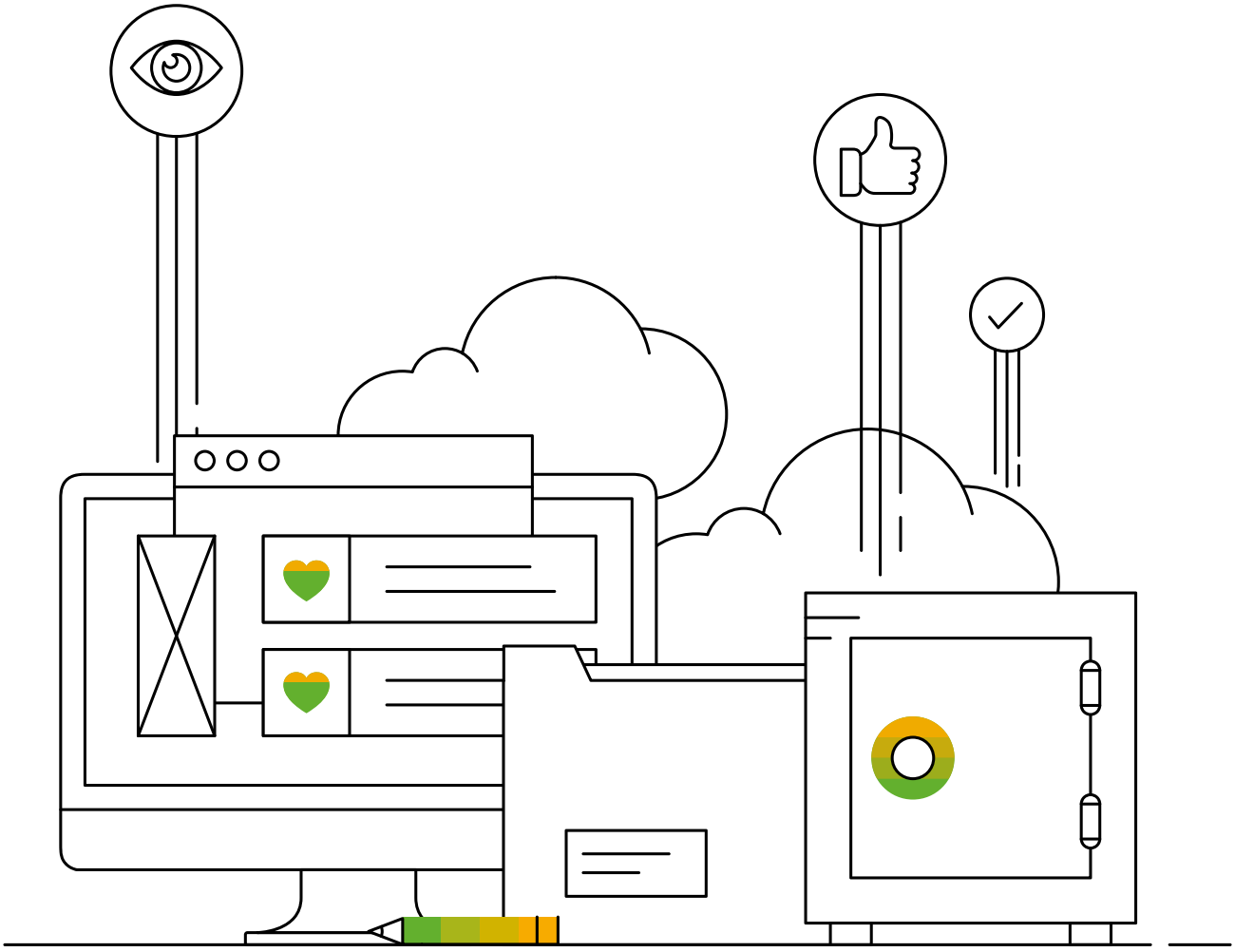
5 Security Services

SAP Cloud Services provides **guidance and details relating to security and data processing** in the SAP Cloud Security Framework and SAP Data Processing Agreement documents.

5.1 SAP Cloud Security Framework

The SAP Cloud Security Framework document describes the security controls and measures provided for the Production environments of SAP Cloud solutions and respective modules provided by SAP.



Section 6

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.

6.1 Infrastructure, Virtualization and Container Technologies

The monitoring agent 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.

6.1.1 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.

6.1.2 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.

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6.2 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.

6.2.1 OS-LEVEL PROCESS KPIS

These basic process KPIs (System Performance) are collected for every process type: CPU, responsiveness, memory, worker processes and I/O.

6.2.2 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.

6.2.3 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 on additional meta-information on Webservers monitoring can be found in the *Monitoring* section on help.hybris.com.

6.2.4 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.

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6.2.5 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:

• apachehttp • cassandra • couchdb • db2 • dockerdaemon • dotnet	• erlang • glassfish • haproxy • java • jboss • linuxsystem	• memcached • mysql • nginx • nodejs • perl • php	• postgres • python • redis • ruby • tomcat • varnishcache

6.3 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. It provides the above mentioned KPIs and an insight into services that are directly provided to end users (entry point services) and also external services (external dependencies) and background activities (e.g. execution of jobs).

6.3.1 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.

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6.3.2 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.

6.3.3 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).

6.3.4 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.

6.4 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.

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6.5 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.

6.6 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.

6.7 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.

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7 Cloud Readiness Check

The Cloud Readiness Check is a set of quality gates provided by SAP Hybris Expert Services to **help ensure the overall quality** of the Customer‘s packaged customized code solution, before it is cleared for deployment by the SAP Hybris Cloud Services team. It includes basic reviews in areas of design and code.

The initial project review includes:

- Project setup review
- High level design review
- High level code review

Before Go-Live the Cloud Readiness Check includes:

- Additional high-level code review
- A review of the SAP Hybris configuration properties
- Basic analysis of application security best practices
- Application and client-side profiling

8 Roles and Responsibilities (RACI)

For more information on the Roles and Responsibilities (RACI), please refer to the following table

The following roles and responsibilities (also known as the RACI) shall apply to the cooperation between SAP, the Customer and the Customer's designated implementation Partner. As between the Customer and SAP, only those responsibilities with an "R" assigned to SAP shall form part of SAP Hybris Cloud Services' obligations. All other responsibilities shall be deemed part of the Customer's obligations.

- R=Responsible
- A=Accountable
- C=Consulted
- I=Informed
- S=Support

Activities	SAP	Partner	Customer
Project and Account Management			
Manage relationship with Application Support Partner			R/A
Traffic volume forecasting (peaks)	C	C	R/A
Participate in monthly cloud service review calls	R/A	I	R
Organic growth capacity management	R/A	C	C

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Activities	SAP	Partner	Customer
Infrastructure and Server Management			
Server management (all servers) up to and including the OS	R/A	I	I
Server OS and network infrastructure patch management	R/A	I	I
Network management	R/A	I	I
Initial server configuration (Dev, Staging, Production)	R/A	I	I
DEV – Initial installation and configuration of the default SAP application	R/A	I	I
STAGING – Initial installation and configuration of the default SAP application	R/A	I	I
PRODUCTION – Initial installation and configuration of the default SAP application	R/A	I	I
DEV – Server (above OS) and additional application configuration and management - SAP web/app, unless it is fully managed by SAP Hybris	C/I	R	A
STAGING – Server (above OS) and application additional configuration and management - SAP web/app	R/A	C	I
PRODUCTION - Server (above OS) and application additional configuration and management - SAP web/app	R/A	C	I
Initial and ongoing server and application configuration and management - Non-SAP web/app/db servers	I	I	R/A
Backup Services	R/A	C	C
Third-party services connectivity (excluding functionality)	R	C	A
Platform patch management (incl. Java; Apache; etc.)	R/A	S	S

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Activities	SAP	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	I	C
Security			
Network infrastructure security (e.g. firewall, IDS/IPS)	R/A	I	I
Server OS security patching	R/A	I	I
Access security (VPN, Two factor authentication)	R/A	R	R
DDoS monitoring	R/A	I	I
Security software: anti-virus, file integrity management, SIEM	R/A	I	I
Application security vulnerability and penetration testing and application security auditing	I	C	R/A
Secure custom application development	I	R	A
Security incident management related to hosting environment	R/A	C	C
Security incident management related to non-SAP application code (initial alerting)	R	A	C/I
Security incident management related to non-SAP application code (mitigation / remediation)	I	R/A	I

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Activities	SAP	Partner	Customer
Database Management			
Database installation and configuration	R/A	I	I
Patching of the database	R/A	I	I
Database backup and restore	R/A	C	C
Database updates to indexes and tables	R/A	C	I
Database availability monitoring	R/A	I	I
Application Development / Deployment / Testing			
Development of new code	I	R/A	C
Preparation of deployment packages	C	R/A	A
Deployment to Development environment (not included in cloud service), unless fully managed by SAP Hybris	R/A	C	I
Deployment to QA environment (not included in cloud service), unless fully managed by SAP Hybris	R/A	C	I
Deployment to Staging environment	R/A	C	I
Deployment to Production environment	R/A	C	I
User Acceptance Testing	I	C	R/A
Overall application quality assurance	I	R	A
Load testing	C	R	R/A
SAP Hybris Commerce upgrades	I	R/A	C

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Activities	SAP	Partner	Customer
Support & Incident Management			
First line support – for infrastructure support issues	R/A	C/I	C/I
Application support – any issue specific to the SAP application	I	R/A	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 (Hosting)	R/A	I	I
Categorization of incident (Hosting)	R/A	I	I
Prioritization of incident (Hosting)	R/A	I	I
Investigation and diagnosis of incident (Hosting)	R/A	I	I
Assignment of incident to appropriate support group within SAP or to Application Support partner for resolution	R/A	I	I

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Appendix A:

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.

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- **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

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- 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

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).

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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
Perform all regression testing	C	R
Perform all user acceptance testing	C	R
Perform all performance testing and tuning	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

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3.1 OUT OF SCOPE ITEMS

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 'Pre-go-live quality check / Code 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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