SAP Hybris

SAP Hybris Commerce Cloud

Cloud Services Description V3.3

Run Simple

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SECTION A

SAP Hybris Commerce Cloud

1. Context

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

As used in this document, "Project" or "Project Phase" means the activities of the Customer and SAP in the period between the project kick-off meeting or call and the Go-Live of the cloud service. "Go-live" means the Production environment is deployed and capable of live processing of end-user data.

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

2. Cloud Onboarding

2.1 INTRODUCTION

Following the signature of the contract, the project will be initiated by the project management team.

A Project Manager will contact the Customer to coordinate a kick-off meeting for the Project to identify the scope, milestones, communication plan, and key project stakeholders.

If the Customer has retained the services of SAP implementation or a third-party system integrator (Partner), this team is also expected to join the kick-off meeting and subsequent project status meetings.

2.2 SCOPE AND DELIVERABLES

The onboarding services include:

Project Management

Coordination of activities with the SAP Hybris technical teams.

Cloud Readiness Check

A quality check on Customer's implementation by SAP Hybris Expert Services consultants resulting in suggested improvement points (e.g. application design, code quality and application-level configuration and security).

Setup of the Development, Staging and Production environments

Multi server environment, installation, setup/configuration of SAP Demo Shop application, app server, web server, networking, security setup. Additional information on the setup of SAP Hybris Conversion Management and SAP Hybris Browse Management can be found in Section B.

Any Additional Services

Subject to a separate services agreement between SAP and Customer.

SAP Hybris Cloud Services shall deliver the following deliverables as part of the Project:

Project Kick-Off Presentation

Covered topics include:

- Project information
- Timeline
- Communication plan
- Team roles and responsibilities
- Deployment process
- Contract review
- Change control
- Readiness Check InfoPack

Cloud Readiness Check 1st milestone – Initial Project Review

Cloud Readiness Check 2nd milestone – Go Live Review

Network Diagram

Change Request Forms:

- Deployment Request Form
  Document to communicate deployment instructions
- Whitelist Form
  Document to manage third-party vendor security whitelisting
- IPSEC VPN Form
  This form is to be used for the creation of the IP-Sec VPN tunnels for site-2-site tunnels
- User-List Form
  This form is to provide users access via SSL VPN and SSH
- **Guides:**
  - Application Deployment Guide
    How to deploy code from a local installation to standard configuration
  - Application Packaging Standards
    Guidelines for packaging application releases
  - Cloud Services Operations Manual
    Details on engaging SAP notifications, escalations and maintenance

Project Plan:

- Details and schedule of implementation activities

Connectivity into the SAP Hybris Commerce Cloud datacenter

NOTE: All servers (excluding the additional servers hosting third-party software applications) in all the provided environments will be managed by, and are the responsibility of the SAP team. Operating System level access will be provided to the application and search servers only in the Development environment.

2.3 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 packaged customized code solution before it is accepted by the SAP Hybris Cloud Services team. It includes basic reviews in areas of design and code.

The Cloud Readiness Check comprises four distinct phases:

1) Handover of Info-Pack during the Kick-off meeting with the SAP Hybris Project Manager

2) Attendance of SAP Hybris Expert Services at the Architecture Review meeting

3) 1st Milestone – Initial Project Review:

- In coordination with the SAP Hybris Cloud Services team and Customer:
  - Project setup review
  - High-level design review
  - High-level code review

4) 2nd Milestone – Go Live Review:

- A Pre-Go-Live review performed once the Customer's customized application code is packaged and ready to be deployed to the Production environment:
  - Additional high-level code review
  - A review of the SAP Hybris configuration properties
  - An application-level security check
  - Application and client-side profiling

Out-of-scope items:

- Performance and penetration testing
- Advanced review of application architecture, OMS, cart, payment system provider, search, navigation, internationalization, third-party integrations and session management
- Manual source code analysis, use of SAP Hybris APIs, back-office configuration review, automated testing review
- Web page profiling, design of performance goals and test plan, test execution and bottleneck analysis, system tuning
- Detailed system architecture review, detailed application and client profiling

NOTE: Please note that the Project activities are carried out during business hours in the time zone of the selected Production environment datacenter.

2.4 SAP HYBRIS PLATINUM UPGRADE PROGRAM

The SAP Hybris Platinum Upgrade Program is offered only with the SAP Hybris Commerce Enterprise Edition. It will enable Customers to keep up-to-date with the latest SAP Hybris Commerce product releases through annual platform upgrades scheduled around the Customer's business cycles and roadmap plans. For further information, see Appendix A.

3. SAP Hybris Commerce Cloud Infrastructure

The Hosting Platform resides on fully redundant infrastructure components. Where applicable, the virtual server components are load-balanced.

3.1 DATACENTERS

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

The datacenters facilities are designed to host mission critical environments and are classified as Tier 4 datacenters.

3.2 BACKUP AND RESTORE

Scope of Backups

Only Production environment servers are included in the backup jobs.

- Backups are done locally using dedicated appliances. The appliances then backup to remote locations.
- An initial "seed" backup is performed (comparable to a full backup), after which a dedicated technology maintains backups of block level changes.
- Data is encrypted first (AES 256-bit), then transmitted over an AES 128-bit connection to the dedicated backup location.

Backup Retention

- **7 days locally on the backup appliance**
  Maintaining a local copy of the backup helps perform a fast restore when required.
- **30 days offsite**
  Offsite backups are used for restoring the data for 30 days.

Backup Frequency

- Offsite backups: daily backups
- Local backup appliance: hourly backups

Restore Time Objective (RTO)

- **7-day old or earlier backups**
  During business hours, restore is completed within approximately 2 hours (depending on the amount of data to be restored). Outside of business hours, SAP will make every commercially reasonable effort to complete the restore within 8 hours.
- **Backups older than 7 days and less than 30 days**
  Restore can take up to 1 business day.

3.3 DISASTER RECOVERY

3.3.1 Definitions

Disaster means an event of substantial extent causing significant disruption of the delivery of the cloud services and may include physical damage or destruction to the SAP 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.

RPO ("Recovery Point Objective") means the maximum tolerable period in which Customer data might be lost due to a disaster (e.g. time between the 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).

SAP shall declare the start of a disaster in its sole discretion. As part of the Disaster Recovery service, SAP shall provide a recovery service that includes full offsite database and system backups to disk and restoration of service from these backups if a disaster occurs.

3.3.2 Service Objectives

- RPO : 24-hour objective
- RTO : 72-hour objective

3.3.3 Scope and Deliverables

The Disaster Recovery service includes:

- Fully functional replica of the Production environment ("Recovery Site") duplicated from the primary datacenter location
- IPSEC Tunnel to the customer location if required for back-end connectivity, and if it exists in the primary datacenter.
- Conceptual network diagram for the Disaster Recovery site

3.3.4 Restrictions / Limitations

- **Only Production Environment.** The scope only includes Production environment. Development QA, Staging or other environments are not replicated. 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 customer's Web Presence for productive use.
- **Reduced Support SLAs.** With the exception of P1 support incidents, all lower severity requests will be treated at reasonable effort during a disaster.
- **Emergency Deployments only.** During a disaster, only emergency deployments (break-fixes) are allowed.
- **Limited Access.** The SAP Disaster Recovery team is responsible for approving access to the Recovery Site servers during a disaster.
- **Limited Monitoring.** Only limited monitoring is included in the Recovery Site. External monitoring is also included.
- **Excluded SAP Services.** SAP Hybris Merchandising, SAP Hybris Conversion and SAP Jam Communities are excluded from the Disaster Recovery service.
- **Customer- deployed software excluded.** Customer warrants that it has all rights and licenses required to allow SAP to copy any Customer-provided software or other Customer-provided technology in order for SAP to replicate the customer's Production environment on the Recovery Site.

3.4 STORAGE

3.4.1 Standard Storage

As a standard, every server is provisioned with 20 GB free space to be used for local logs, configurations and, where applicable, code deployments.

The storage appliances use solid state disks and is safeguarded using redundant storage arrays.

SAP HANA database servers are equipped with space as follows:

a) 400 GB for Production including 50GB available for customer data

b) 200 GB for Staging including 50GB available for customer data

c) 200 GB for Development including 50GB available for customer data

d) 200 GB for QA (if applicable) including 50GB available for customer data

3.4.2 Additional Storage

Storage space in addition to the standard storage allocations is also available for an additional fee. This additional disk space can be distributed as required across any environment (media folder, specific server or database).

3.5 ADDITIONAL SERVERS HOSTING THIRD-PARTY SOFTWARE APPLICATIONS

The Customer can procure vanilla servers within any of the environments (DEV-STG-QA-PROD). These are typically required to run software or applications that are sensitive to latency/bandwidth and allow them to run next to 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.

The servers support a single instance per environment to allow standardized transport/patching, following the same release/promotion process.

Services offered by SAP Hybris for these servers are:

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

The Customer is responsible for:

- Providing monitoring end-points per software specifications
- Around the clock support (24x7x365)
- Restarting the service
- Appropriate licenses for any software installed on those servers
- Patching and maintaining the software installed to supported and secure versions

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.

3.6 BANDWIDTH

The base rate specified in the Agreement in Mega-bits-per-second (Mbps) is a unit of measure used for the bandwidth of SAP Hybris Commerce Cloud. The bandwidth metric in Mbps reflects the datacenter inbound and outbound traffic to and from the Customer's servers. This includes traffic passing through the public internet and any physical or virtual tunnels. The 95th percentile is used to meter the bandwidth usage, allowing the Customer to burst beyond the committed base rate when necessary.

3.7 CONNECTIVITY

3.7.1 Internet

The SAP Hybris Commerce Cloud Service is connected through to Tier 1 internet backbone access. The redundant multi-tier network is based on gateway routers, core switches, and distribution switches. The datacenter is connected directly to the high-performance global IP network.

4. Monitoring and Response

4.1 MONITORING ANALYSTS / FIRST LEVEL RESPONDERS

The SAP Hybris Network Operation Center (NOC) monitors systems 24/7 and reacts to the alerts triggered by the various system checks.

The SAP Hybris NOC also handles tickets (messages) issued by the Customer and may redirect them to the relevant Level 2 team as required.

Please review The Support Policy for SAP Cloud Services:

http://www.sap.com/about/agreements/cloud-services.html?search=Support&sort=latest_asc

Access credentials are granted to key users following contract registration.

4.2 MONITORING OVERVIEW

The monitoring systems will alert the various system checks as follows:

- **Basic monitoring**: Available in all environments (including custom servers)
  - Ping, port availability
  - CPU, memory, disk space
  - Backup
- **Advanced monitoring:** Available for SAP Hybris Cloud Services team in Staging and Production
  - SAP Hybris application specific monitors
  - Java monitors
  - Webserver monitoring
  - URL checking
  - Third-party monitoring
  - Service monitoring
  - Database monitoring

4.3 TROUBLESHOOTING TOOLS

Additional advanced tools are available to help provide deeper error detection and troubleshooting.

- **Available to customers**
  The following tools are available upon subscription to SAP Hybris Cloud Services:
  - Performance Dashboards: CPU, memory, disk and other various metrics
  - Log Aggregation: Advanced log aggregation tool to help customers review logs and correlate events across the landscape

- **On-demand reports**
  The following reports are provided on-demand:
  - Database performance tools (available monthly)
  - Sensitive Data Discovery (available upon request)

4.4 REPORTS

A customer scorecard is generated monthly to provide the Customer with data which measures the Customer's website performance for the previous month. This includes the following:

Website availability

- The uptime percentage and average response time for the website

Infrastructure availability

- The availability of infrastructure in the datacenter

Bandwidth

- Reflects the use of the public internet pipe in the 95th percentile

Service fulfillment

- Incidents opened
  - Priority 1 (P1) incidents
  - Requests
- Incidents resolved
- Changes requested
  - Staging deployments
  - Production deployments
- Problem tickets opened

Environment sizing

- Storage use
  - NFS size
- Snapshot of current Production environment (servers, cores, RAM, versions)

Database health

- Top queries executions
- Large tables
- Database size

Security update

- Relevant security related information or events that might have occurred

4.5 CAPACITY MONITORING AND PLANNING

On a monthly basis, SAP Hybris Cloud Services review the overall health, performance and utilization reporting to determine if increases in capacity are required. If the data justifies the need to increase capacity, SAP Hybris Cloud Services will recommend such capacity changes to the Customer.

4.6 MAINTENANCE WINDOWS

To maintain optimal performance, reliability and security, SAP Hybris Cloud Services perform regular scheduled maintenance activities.

4.6.1 Impacting Maintenance

Whenever service impact is expected during any maintenance activity scheduled by SAP, SAP will use commercially reasonable efforts to provide 10 business days notice to the Customer.

4.6.2 Emergency Maintenance

In the event of a critical security patch which endangers SAP's service delivery, SAP reserves the right to execute the patch work, informing the customer at least 48 hours before the necessary downtime. This downtime is part of the Excluded Downtime system availability according per Service Level Agreement for SAP Cloud Services.

4.6.3 Patching and System Upgrades

Patching and system upgrades performed on Customer environments are scheduled in coordination with the Customer in advance, typically outside of the reserved SAP standard maintenance window.

5. Environment Buildouts and Application Deployment Services

5.1 DEFINITION

"Deployment" as used herein shall mean a customer initiated packaged code deployment from the Development environment to the Staging environment or a packaged code deployment from the Staging environment to the Production environment. The delivery resources that support this work effort are part of a shared services team.

5.2 OVERVIEW

SAP Hybris Cloud Services include SAP Hybris application deployment services for Development (where applicable), Staging and Production environments during the project phase and after the Go-Live of a site. The 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 Services Deployment Packaging Specification.

Application Deployment Guide

SAP Hybris Cloud Services provide a Deployment Packaging Specification that documents how the deployment package should be prepared and a standalone command line tool, which can be used to validate the structure and format of a deployment package before it is submitted for deployment.

In order to avoid false alerting, the Customer must notify SAP 5 days prior to any activity performed by the Customer which may impact the hosted landscape (e.g. load testing, penetration testing and ASV scans).

5.3 ENVIRONMENT BUILDOUT

SAP will make every commercially reasonable effort to meet the following targeted schedule from the date of a kick-off meeting/call to provide the following:

- 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.

5.4 DEPLOYMENT MODES

SAP Hybris Cloud Services offer two main modes of deployments: rolling updates and updates with database changes, the latter requiring website downtime.

Valid deployment packages must be submitted to SAP during business hours and at least 24 hours (preferably before noon) before the expected change window starts.

5.5 DEPLOYMENT SERVICES ROLES AND RESPONSIBILITIES

The following terms and conditions apply to deployment services:

1. Updates to the Customer's SAP Hybris application must be deployed by SAP in the Staging environment and Production environment.

2. All requested database changes which cannot be performed via the SQL interfaces of the SAP Hybris application will be communicated by the Customer or its Partner to SAP and performed by SAP.

3. All requested web server changes must be communicated by the Customer to SAP and performed by SAP.

4. The ability to perform a rollback of a deployment is a standard feature of the deployment process. However, the Customer or its Partner is responsible to ensure backward compatibility of releases and data at any time. In case data must be restored for a rollback, the Customer must provide that information before a deployment takes place.

5. When relevant, planned code deployments are performed during business hours in the project phase but can be performed out of business hours after Go-Live (e.g. at night or at weekends) if the request is made during business hours and at least 24 hours before the time of the deployment.

6. Change requests which require SAP action are performed on a timescale in line with the request. For example, certain requests such as firewall changes would be scheduled for the next maintenance period. To provide optimal implementation of customer change requests, no-build-deployment or firewall changes are made on Fridays, weekends and public holidays.

6. Database Services

The SAP HANA database runs on redundant and segregated virtualized server infrastructure. In addition, data is backed up frequently as described in Section 3.2.

The SAP Hybris Commerce Cloud includes the SAP HANA database license for use with the SAP Hybris Commerce Cloud application when running from the cloud service environment within the SAP predetermined database infrastructure. No direct SSH or client access to database layer will be provided in any environment (DEV-QA-STG-PROD). The license is valid only during the cloud subscription term. The license is non-transferable and cannot be used outside of the SAP Hybris Cloud Services used datacenters.

6.1 STANDARD DATABASE OPERATIONS

The SAP Hybris Cloud Services include standard database operations. Database patching is performed during scheduled maintenance. Any restore procedures on the database can only be performed with the written authorization of the Customer.

- Support on Production/Staging/Development environments or any other contracted optional environments
- Daily full database backup
- Logs backup
- Maintenance and patching of the operating system and database software
- Implementation of one-off high-risk database security patches if provided by the vendor
- Database restore services
- On-demand database backup
- Database operations to support application deployment
- Emergency triage of application query problems
- Volume encryption for data at rest using AES-256-CBC as encryption algorithm

6.2 PROACTIVE DATABASE HEALTH AND PERFORMANCE MONITORING

The SAP Hybris Cloud Services include proactive database monitoring to ensure database health and performance. Alerts are put in place to capture potential database health issues. Application related performance issues will be reported back to the Customer.

Monitoring includes but is not limited to:

- Database compute: CPU, RAM, IO, etc.
- Data space usage
- Blocking sessions from application
- Large tables which may cause performance degradation
- High number of executions on an application query
- Slow performing application queries
- Database sanity check/performance review

6.3 DATABASE CAPACITY PLANNING

The SAP Hybris Cloud Services include managing capacity on-demand based on actual database requirements. The database footprint is determined per contracted sizing. If the Customer adds incremental volume tiers during the project lifecycle, any required database expansion to support the new volume tier is included.

Databases are reviewed frequently in terms of disk spaces, CPU and memory usage.

7. Infrastructure Services

The SAP Hybris Cloud Services include server management, OS patching and proactive maintenance of the Hosted Platform and underlying hardware.

7.1 NETWORK SERVICES

7.1.1 Monitoring

SAP uses commercial monitoring software to monitor key metrics within the network.

7.1.2 Bandwidth Reporting

Bandwidth reporting tracks the Customer's consumption of network resources. Bandwidth consumption reports are generated monthly and used in the monthly scorecards provided to customers. Reports include inbound and outbound traffic as well as overage bandwidth usage above the allocated bandwidth for a customer.

7.1.3 Capacity Planning

Internal reports are generated monthly to review available capacity in terms of bandwidth usage (internally and externally), IP address management and performance of the network hardware (switches and appliances) including RAM and CPU metrics.

7.1.4 Connectivity Services

The Customer has the option of connecting to its provisioned environments using site VPN, tunnels and dedicated hardware solutions such as MPLS and remote access VPN with multi-factor authentication.

7.1.5 Maintenance of Network Infrastructure

SAP Hybris Cloud Services perform regular maintenance to keep systems patched and up-to-date with the latest firmware releases on the switch, load balancer, firewall and VPN appliances.

7.2 SYSTEM MANAGEMENT SERVICES

Operational activities performed are:

- Troubleshooting support
- Daily backups of critical data
- Patching and upgrades of customer systems
- Adding additional resources (CPU/RAM/Disk) to systems when requested
- Certificate installation and CSR creation
- Vertical/Horizontal expansion of customer environments
- User management
- Load balancer management

7.2.1 System Monitoring

Standard Service Checks include:

- Load Average
- CPU
- RAM
- Disk
- Network

7.3 SCALING

7.3.1 Vertical Scaling

- Vertical Scaling allows SAP Hybris Cloud Services to increase the physical capacity of the site (add Cores (vCPUs) to provisioned web (seldom), app, search servers and database servers as required).

NOTE: Project code dependencies and site complexity will impact the relationship of additional infrastructure cores added.

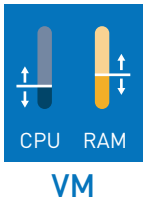

Figure 4: Vertical scaling

7.3.2 Horizontal Scaling

Horizontal Scaling is typically used for "planned" surge events (e.g. marketing campaigns)

- SAP Hybris Cloud Services provision scaling groups (App, Web, Search) up to 48 hours prior to a planned surge event.
- SAP Hybris Cloud Services test and implement the scaling groups with the Customer to ensure stability and conformity.
- These scaling groups are created by cloning a generic app server in the environment (app001). Once the surge event is complete, SAP Hybris Cloud Services will turn the scaling group off and decommission it.

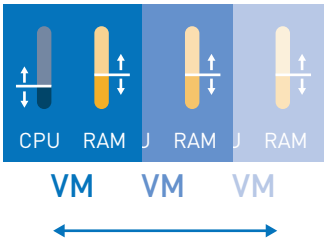

Figure 5: Horizontal scaling

8. Security and Compliance

8.1 PHYSICAL ACCESS MONITORING

Each datacenter where the SAP Hybris Commerce Cloud is hosted deploys appropriate security technology and techniques, including:

- All areas of the datacenters are monitored, activities are recorded using CCTV and all access points are controlled.
- High-sensitivity areas require authentication.
- Permanent manned security presence with a multi-layered secure perimeter
- Shipping and receiving area walled off from colocation areas
- All datacenters are certified on a regular basis for security processes and procedures.

8.2 NETWORK INFRASTRUCTURE SECURITY

Infrastructure-related security controls include network firewalls, intrusion detection systems and hardened configurations in standard servers. Log management procedures are in place for log collection for network devices, servers and applications.

ADNS-Based DDoS monitoring and mitigation service is also offered to protect customer websites from volumetric attacks.

In addition, security policies and change management policies are in place to help ensure that access and changes to customer systems and information is accessible only by SAP staff with access authorization.

The application of security processes and requests follows the SAP Change Management Process and further documentation is available on SAP's Change Management Processes upon request.

Security processes and procedures related to the development and deployment of custom implemented code are the responsibility of the Customer. The Customer is also responsible for its own external vulnerability scans and penetration tests to ensure the regular deployments of the applications are secure.

8.2.1 Firewall Management

Firewall management is included in the SAP Hybris Cloud Services offering. Firewalls are highly available with no single point of failure to allow only approved traffic inbound and outbound. Firewall audit logging is in place with 90 days online retention periods and 1 year offline retention. Internal and external firewalls are used to create trust domains between the public and individual landscape.

8.2.2 Secure VPN with Multi Factor Authentication

SAP Hybris Cloud Services make use of two factor authentication to ensure enhanced security access to the network. Two factor authentication is required for all remote access services.

8.2.3 Malware Protection

SAP deploys antimalware agents on servers that are considered critical (e.g. internet facing) and susceptible to this type of threat.

8.2.4 Security Information and Event Monitoring

By using a Security Information and Event Management system (SIEM), SAP centralizes the storage, analysis and interpretation of logs and allows for real time analysis and alerts. Critical devices, system and applications log data to the SIEM.

8.2.5 Infrastructure Vulnerability Scanning

Vulnerability scans are undertaken to help ensure all infrastructure related vulnerabilities are detected and mitigated. Scans are performed on a scheduled and ad hoc basis. Details and results of a test can also be provided upon request. Vulnerability scanning is available for internal systems. Detection signatures are updated every 24 hours.

8.2.6 Network Based Intrusion Detection and Prevention System

SAP uses a network-based intrusion detection and prevention system. Intrusion alerts are generated in real time and daily intrusion detection reports generated and reviewed by the SAP Hybris Cloud Services Security Operations team. Alerts are also sent to the central SIEM for intelligence analysis and correlation.

8.2.7 DNS-based DDoS Mitigation

SAP employs industry best practices to mitigate Distributed Denial of Service (DDoS) attacks. In this instance, SAP leverages a third-party managed service to supply 7x24x365 monitoring and attack mitigation service. SAP employs different techniques to address volume-based DDoS attacks through traffic scrubbing centers of the service provider as well as highly fault tolerant SAP datacenter inline anti-DDoS protection devices which perform traffic analysis and scrub DDoS attacks in real time targeting weaknesses (e.g. resource exhaustion, session exhaustion, etc.) on network devices, load balancers, reverse proxies, web- and application servers. The cloud scrubbing can handle capacity up to 2TBps with plans to further expand.

Detect and Mitigate DDOS/DOS Attack

- Identify when an internet based DDOS/DOS attack is underway against SAP Services
- Provide an appliance based solution that will be placed on SAP premises
- Be able to lessen the effects of an attack so that the services can continue to operate within baseline standard
- Provide automatic alerts via SNMP traps and email within minutes of the start of an attack
- Notify SAP operations staff within 15 minutes of the start of an attack and take immediate action to maintain the availability of SAP services

Protection from Volumetric Attacks

- Provide a cloud based scrubbing component which when activated, will filter hostile activity and deliver clean traffic to SAP
- Be geographically located within defined network proximity of required SAP locations

HTTP/HTTPS Protection

- Detect and mitigate HTTP/HTTPS attacks via the appliance based solution
- Detect and defend the HTTP and HTTPS protocols including the ability to detect and defend SSL encrypted payload traffic as an available option

Other Protocol Protection

- Detect and mitigate attacks against (but not limited to) the following protocols:
  - o SMTP, FTP, SFTP, NTP, DNS

8.2.8 Site to Site VPN Services

Site to site VPN services are available to provide VPN tunnels between external sites and the hosted environment. The required infrastructure for implementing this type of VPN is the responsibility of the Customer and must be supplied by a telecommunications operator.

8.2.9 Network Segregation

SAP utilizes the principal of an isolated zone for the Customer. The Customer receives an isolated, logical grouping of several virtual machine systems. The Customer's cloud service networks are segregated from each other using VLAN Firewall. The Customer's cloud service systems are deployed in the respective customer private network.

8.3 INFORMATION SYSTEMS SECURITY

8.3.1 System Hardening

System hardening is applied to the Customer cloud service systems and shared infrastructure components.

8.4 SECURITY PROCESSES AND PROCEDURES

8.4.1 Vulnerability Management

The following services are part of the SAP Vulnerability Management system:

- **External Penetration Test**
  - All internet facing systems (e.g. firewalls, load balancers, gateways, web application servers, etc.) are validated by penetration tests. An external company performs these tests annually. Findings from the penetration tests are followed up according to their criticality. Due to security reasons, penetration test results may not be shared with the Customer.
- **Customer Performed Vulnerability Assessment**
  - Customers may perform their own vulnerability assessments. These assessments must follow strict guidelines provided by SAP.
- **Security Patch Management**
  - The SAP security team rates security patches based on the CVSS (Common Vulnerability Scoring System) standard for operating systems, databases and virtualization in the cloud service upon occurrence and groups them into categories. SAP is following a standard maintenance process while a patch management procedure is executed during these regular scheduled maintenance windows. In the event of a critical security patch which endangers SAP's service delivery, SAP will follow the procedures described in Section 4.6.
- **Malware Management**
  - SAP uses a malware management process. It consists of antimalware deployment, regular scans and malware reporting sub-processes. Antimalware software or an equivalent solution is installed on servers in the SAP Hybris Commerce Cloud landscape during the system setup process. The central malware management server is configured to automatically distribute new malware definitions to all connected endpoints on a frequent basis.

8.4.2 Business Continuity and Operational Resilience

Business continuity management is a holistic management system that identifies potential threats to an organization and their impact on business operations. It provides a framework for building operational resilience with the ability to respond effectively if those threats materialize. At SAP, we have implemented business continuity management aligned to ISO22301 as part of our management framework for business continuity and operational resilience, including corporate continuity, IT service continuity management and cloud continuity.

8.5 SECURITY INCIDENT RESPONSE

SAP utilizes formal event reporting and follows escalation procedures if an information security incident occurs.

8.6 ACCESS CONTROL MANAGEMENT

Access to SAP Hybris Commerce Cloud systems can be requested via a ticketing management tool. Each access request is assessed by authorized SAP approvers. The approver defines the validity of the request depending on the profile of the requestor and only grants access in cases of maximum validity. Access to each system is based on the need-to-know principle. User management for Customer's users is the responsibility of the Customer. Bi-annually, SAP Hybris Cloud Services undertake an access control review to revoke unnecessary privileges.

9. Roles and Responsibilities

The following roles and responsibilities shall apply to the cooperation between SAP, the Customer and the Customer's designated implementation firm. As between the Customer and SAP, only those responsibilities with an "R" assigned to SAP shall form part of SAP Hybris Cloud Service's 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
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 additional application configuration and management – SAP web / app	R/A	C	I
PRODUCTION – Server (above OS) and additional application configuration and management – SAP web / app	R/A	C	I

Infrastructure and Server Mangement			
Initial and ongoing server and application configuration and management – Non-SAP web / app / db servers (e.g. Vertex)	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
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, 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
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 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	I	R/A	I
Deployment to QA environment (not included in cloud service), unless fully managed by SAP Hybris	I	R/A	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
Support & Incident Management			
First line support – for infrastructure support issue	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
Investigatation 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

Table 1: Roles and Responsibilities

SECTION B

Deployment Service Description for SAP Hybris Merchandising, SAP Hybris Conversion Management and SAP Hybris Browse Management

1. Context

The following sections describe the cloud services deployment for the following SAP Cloud Services that are included in the SAP Hybris Commerce Cloud, Professional Edition and SAP Hybris Commerce Cloud, Enterprise Edition: SAP Hybris Conversion, consisting of:

- SAP Conversion Management
- SAP Browse Management
- SAP Hybris Merchandising

SAP will provide the services as described below ("Cloud Services Deployment"). Any change in the specific scope of cloud services deployment must be mutually agreed upon by the parties in writing and may be subject to additional fees.

2. Cloud Services Deployment – General

2.1 KEY ASSUMPTIONS

SAP will guide the Customer through the setup of the cloud service as described below. The Customer is responsible for executing the program to deploy and activate the cloud service.

1. The scope of SAP Cloud Services Deployment is limited to the activities and tasks outlined herein and will be delivered remotely. Additional SAP services including onsite consulting services are available for an additional fee.

2. The project activities not covered in this Deployment Description are the Customer's responsibility. SAP may perform additional activities under a separate agreement for an additional fee.

3. Cloud services deployment is provided one-time only at the start of the initial subscription term of the cloud service and does not apply for the remainder of the subscription term or any subsequent renewal term.

4. The following SAP services are outside the scope of the cloud services deployment:

    - Program management consulting
    - Technical support consulting
    - Change management services
    - Additional SAP training services
    - End user documentation
    - Training

5. Stress and performance testing is outside the scope of this deployment service.

6. Any work efforts and/or solutions that are not specified within this Deployment Description are out scope. Such services could be included in a change request signed by the parties for an additional fee.

7. Additional services beyond the scope as described in this Deployment Description and in the contract between SAP and the Customer, including, for example, expanded implementation to additional regions, departments or business units or a project extension, must be mutually agreed upon by the parties in writing and additional fees may apply.

2.2 RESOURCES – CUSTOMER

The Customer must provide the following resources:

1. The Customer must staff the following project roles as detailed in Table 2. Assigned resources must have the correct skills and knowledge to complete all listed responsibilities.

2. The Customer must staff the project roles for the time frames recommended by SAP based on the project scope.

3. If Customer resources are not able to complete their responsibilities as detailed in Table 2 either due to skill, knowledge or time limitations, project delays may occur. Any extension to project duration due to Customer resource limitations may result in additional fees.

ROLE	DESCRIPTION
Customer Project Sponsor	Provides vision, guidance and senior leadership to the project
Customer Project Manager	Manages the project
Customer Functional Lead	Drives execution of the project to ensure the results meet the business needs
Customer Technical Lead	Drives execution of activities that affect Customer systems and data
Customer Supplier Enablement Lead	Develops and executes a strategy for maximizing suppliers' adoption of the cloud service
Customer Subject Matter Experts / Testers / Pilot Users	Provide input from their respective departments and participate in project activities as appropriate
Customer System Administrator of Cloud Service	Administers cloud service and configures Customer facing aspects of the cloud service UI as needed
Customer Support Lead	Plans, develops and implements production support model for Customer

Table 2: Roles of Customer in project

2.3 DEPLOYMENT SERVICES TIMELINE

1. Technical 'Kick-Off' is defined as the date when the SAP and Customer project teams convene to align on the goals, scope and approach to the project.

2. 'Go-Live' is defined as the date when live transactions are conducted through the cloud service.

3. The maximum cloud services deployment term is 10 calendar weeks.

4. If Customer 'Go Live' is not achieved within the services timeline defined above, a project extension must be mutually agreed upon by the parties in a signed written agreement which may result in additional fees. SAP's standard professional services change request procedures may be used to document these changes.

5. The Customer acknowledges that if the Customer chooses to delay the project deployment timeline in order to wait for a service pack release, that delay will be addressed through a change request and an increase in the cloud services deployment timeline which may result in additional fees.

3. Implementing SAP Hybris Conversion

IMPLEMENTATION OF THE CLOUD SERVICE
The SAP Hybris Conversion implementation will begin following a technical Kick-Off call (between the Customer and the SAP onboarding team). SAP will cooperate with the Customer for the implementation in order to execute the following tasks to completion.

ACTIVITY	SAP RESPONSIBILITIES	CUSTOMER RESPONSIBILITIES
Implementing Javascript tags on Customer Site	• Provide custom "Tagging Guide" that shows examples of tags needed to collect the proper data for the successful implementation of the Conversion Management service • Review tagging guide with Customer • Provide Distributed Code that will be sent with all data from the Customer Site to the SAP service to ensure the identification of the data	• Provide SAP with a list of data points that will be captured by the tags along with what each data point will be used for (e.g. "display in emails", "segment audience") • Review tagging guide with SAP • Implement and place Javascript tags on sites. This may require starting on a QA/Staging site prior to code being placed on the live Customer Site
Testing Javascript tags	• Test each specific tag based on what is documented in the tagging guide	• Prior to handing off the Customer Site to be tested by SAP, the Customer will run initial tests to ensure tags are, in general, firing and the Customer Site (whether a staging site or live site) is functioning as designed • Perform any additional testing of tags and site that is required from the Customers perspective beyond SAP's testing efforts. This could include but is not limited to "Use Case Scenario" and "Regression" testing
Developing email html	• None	• The Customer is wholly responsible for creating, writing and testing html for email(s)

ACTIVITY	SAP RESPONSIBILITIES	CUSTOMER RESPONSIBILITIES
Testing ESP / SAP integration	• Provide the Customer with a list of what credentials are needed for its specific Email Cloud Service Provider (ESP) • Set up ESP/SAP integration (only for standard SAP-delivered integrations) based on credentials supplied by Customer • Place cloud service in test mode, test that emails are generated and delivered when an abandoner is entered into a campaign • Provide examples to the Customer for review	• Provide SAP with credentials as requested for ESP configuration • Ensure that ESP is set up so that requests from SAP will generate an email. This would include but is not limited to ensuring that emails are 'active' and/or 'published'.
Decision to turn service live	• Request from Customer a list of orders placed through Customer Site after the SAP tags have been live for twenty-four to fourty-eight (24 - 48) hours (minimum) • Compare data from Customer order report with what is seen during same period	• Verify that emails for each campaign step have been examined and have been signed off as ready to deploy • Provide SAP with order report as requested
Turning the cloud service live	• Clear SAP data that was generated during testing • Set up all needed campaigns in the cloud service • Notify Customer by email that the cloud service is live along with explanation of initially running campaigns	• None

4. Implementing SAP Browse Management

IMPLEMENTATION OF THE CLOUD SERVICE
The SAP Browse Management implementation will begin following a technical Kick-Off call (between the Customer and the SAP onboarding team). SAP will cooperate with the Customer for the implementation in order to execute the following tasks to completion.

ACTIVITY	SAP RESPONSIBILITIES	CUSTOMER RESPONSIBILITIES
Implementing Javascript tags on Customer Site	• Provide custom "Tagging Guide" (or updated tagging guide if the Customer is updating to the Browse Manager service) that shows examples of tags needed to collect the proper data for the successful implementation of the Browse Manager service • Review tagging guide with the Customer • Provide Distributed Code that will be sent with all data from the Customer Site to the cloud service to ensure the identification of the data. If this is an upgrade, SAP will provide a 'Test Cloud Service Code' that will be used on Staging/QA sites	• Review tagging guide with SA • Implement and place Javascript tags on Customer Sites. This may require starting on a QA/Staging site prior to code being placed on the live Customer site
Testing Javascript tags	• Test each specific tag based on what is documented in the tagging guide	• Prior to handing off site to be tested by SAP, the Customer will run initial tests to ensure tags are, in general, firing and the Customer site (whether a staging site or live site) is functioning as designed • Perform any additional testing of tags and Customer site that is required from the Customer's perspective beyond SAP's testing efforts. This could include but is not limited to "Use Case Scenario" and "Regression" testing

ACTIVITY	SAP RESPONSIBILITIES	CUSTOMER RESPONSIBILITIES
Developing email html	• None	• The Customer is wholly responsible for creating, writing and testing html for email(s).
Testing ESP / SAP integration	• Provide the Customer with a list of what credentials are needed for its specific Email Cloud Service Provider (ESP) • Set up ESP/SAP integration (only for standard SAP-delivered integrations) based on credentials supplied by the Customer • Place the cloud service in test mode, test that emails are generated and delivered when an abandoner is entered into a campaign • Provide examples to the Customer for review	• Provide SAP with credentials as requested for ESP configuration • Ensure that ESP is set up so that requests from SAP will generate an email. This would include but is not limited to ensuring that emails are 'active' and/or 'published'
Decision to turn service live	• If Conversion Manager is running, pause service prior to code push • Test that all tags are functioning as designed	• Verify that emails for each campaign step have been examined and have been signed off as ready to deploy • Push code to live Customer site, coordinating this code push if Conversion Manager is already active on the live Customer site
Turning the cloud service live	• Set up all needed campaigns in the cloud service • Notify the Customer by email that the service is live along with an explanation of initially running campaigns	• None

5. Implementing SAP Hybris Merchandising

IMPLEMENTATION OF THE CLOUD SERVICE
The SAP Hybris Merchandising implementation will begin following a technical Kick-Off call (between the Customer and the SAP onboarding team). SAP will cooperate with the Customer as well as with any third parties that the Customer might employ for the implementation in order to execute the following tasks to completion.

ACTIVITY	SAP RESPONSIBILITIES	CUSTOMER RESPONSIBILITIES
Gathering of Requirements	• Provide guidance on what product data will be required and decide on facets that need to be gathered	• Define requirements. Identify how data is to be provided via web event or via a dedicated API
Review of SAP Hybris Commerce adaptation in regards to the storage and retrieval of product information required for SAP Hybris Merchandising.	• None	• Define where SAP Hybris Merchandising interfaces will need to collect information from the catalog etc.
Commissioning of Customer to use the SAP Hybris Merchandising service	• All actions required to create the Customer in the cloud service	• None
Installation, configuration, adaptation and testing of add-on in the Development environment	• Assist in the testing of the modified add-on by proofing data that is sent to the cloud service	• Install and configure the Add-on in a reference environment. Make modifications to Add-on as necessary to match modifications made to SAP Hybris Commerce. Create direct product feed as required Complete any functional testing that is required on the Customer site itself

ACTIVITY	SAP RESPONSIBILITIES	CUSTOMER RESPONSIBILITIES
Go-live with add-on adaptations to prime the service	• Verify that data is coming from the live Customer site, populating the service and that the service is beginning its calculations	• Move add-on code and adaptations to the live Customer site
Adaptation of carousels	• None	• Make modifications to reference carousel to suit 'look and feel' specific needs of the customer site and/or use APIs directly as required
Initial strategies and mix cards	• Provide advice upon request regarding the creation of strategies and mixcards	• Set up initial strategies and mixcards to be used once service is primed and ready for final 'Go-live'
Confirmation that the system is primed	• Confirm that data looks correct and that there is sufficient information being calculated to ensure correct population of carousels	• Provide development support should there be issues with incoming data
Go-live with initial carousels	• Ensure that data from the live environment is now populating the cloud service correctly	• Roll out code from the Staging site

Appendix

SAP Hybris Platinum Upgrade Program

1. Scope Definition

The Platinum Upgrade Program (also known as Platinum Package) is a key component of the cloud services for SAP Hybris Commerce, Enterprise Edition. It will enable SAP Hybris Cloud Services customers to stay up to date with the latest SAP Hybris Commerce product releases through annual platform upgrades scheduled around the customers' business cycles and roadmap plans. This will allow customers to keep up with the SAP Hybris product release cycle, to stay up to date on platform support, and to gain access to new out-of-the-box features and APIs from the latest SAP Hybris version.

SAP will provide a set of services to the Customer to upgrade the version of the SAP Hybris Commerce platform that the Customer is using. These services are aligned with our five value pillars for upgrade:

- Functionality – Help improve your business with the availability of new functionality
- Innovation – Help bring faster innovation to your customers
- Simplification – Can replace custom code with out-of-the-box functionality
- Integration – Integrate with key systems
- Support – Run on the latest fully supported version of the platform

This set of services provides the Customer with a temporary development environment upgraded to the target version of the Commerce platform, including dependencies and SAP-supported extensions. SAP will deploy configurations and extensions provided by the Customer to the target platform using the automated build targets specific to the implementation. If necessary, the Customer or implementation partner will provide a development setup guide, including any project-specific build instructions required for a successful deployment.

Refactoring or modification of the Customer configuration and extensions to work on the upgraded platform is not included in the package. The Customer can work with SAP, 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. Additionally, SAP will provide a proposal for an SAP services time and materials implementation for any required work, should the Customer prefer SAP to perform the refactoring effort.

2. Components

The 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

This report will outline how the Customer will be able to take advantage of new features and functionality available to them following the platform upgrade. It will also identify areas in the Customer`s implementation that may be refactored/replaced with out-of-the-box components that will bring the solution closer to SAP Hybris Commerce standards. It will also focus on any functional enhancements that might be necessary to meet the Customer`s latest business requirements.

2.1.1 How it works

A [3 day] engagement performed by an SAP Hybris application consultant. It will include a one-day onsite workshop for the Customer business and IT teams.

2.1.2 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 platform 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 Hybris Commerce 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. This estimation allows alignment on the timing plan for the upgrade and how it fits into the Customer's business cycles and roadmap. Recommendations will also be provided for remediating / refactoring any issues discovered in the implementation as part of the analysis that are outside the scope of the platform upgrade component. The Technical Upgrade Analysis does not include any analysis regarding leveraging new features or additional functionality on the upgraded platform, as this is covered as part of the Upgrade Benefits Assessment.

2.2.1 How it works

A [2-3 weeks] engagement performed by SAP Hybris 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 their 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 Hybris 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 platform upgrade scope definition
- Technical challenges – issues that must be fixed during the platform upgrade (SAP's responsibility)
- Improvement areas – cleaning up of outdated code, removal of legacy modules, SAP Hybris type system and data cleanup, possibly leading to performance improvements (Customer'sresponsibility)
- 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

2.2.2 Scope

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

- Configuration upgrade and gap analysis between current and target versions
- Analyze all extensions which are included in the Customer solution and dependencies between them
- Building the code base
- Running the SAP Hybris built-in initialization operation
- Application start-up
- Running the SAP Hybris 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 Hybris Commerce platform installed. This includes the upgrading of any necessary dependencies. It also includes the installation of the Customer extensions and configurations so that the Commerce platform builds and successfully starts.

2.3.1 How it works

A [4-6 weeks] engagement performed by SAP Hybris 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 tests against upgraded database, and verifies solution
- Customer is responsible for fixing issues related to extension or modification. SAP Hybris 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

2.3.2 Scope

The provision of an Upgrade Development environment using the target platform version with the Customer implementation built, deployed and started on it. It does not include any user acceptance, regression or performance testing. The Customer is required to 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 Hybris Commerce, installation of database and dependencies.
- Source code compilation/build in the Development environment: Remediation of extension code against dependencies and the target platform to achieve successful compilation and build the deployment to the 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 Hybris application consultant(s) to verify code quality and compliance with SAP Hybris Cloud Services standards and best practices of any remedial or refactoring work. If the refactoring work is carried out by SAP, this effort is part of our standard methodology and the quality checks that we apply to all our projects.

2.4.1 How it works

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

2.4.2 Scope

A review of all source code modifications to ensure that SAP Hybris Commerce best practices have been adhered too 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 Hybris Type System using specific rules developed by SAP Hybris Expert Services
- Manual source code analysis – To identify application logic and/or design issues
- Correct usage of SAP Hybris Commerce APIs

3. Assumptions and Exceptions

The following assumptions apply to the scope and should be supplied by the Customer in advance of the analysis and preparation phase of the service:

- As part of this offering, all customers will be upgraded to a current version of SAP Hybris Commerce annually from initial Go-Live.
- The target SAP Hybris Commerce version is identified as the latest available by SAP Hybris Cloud Services 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).

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

TASK	SAP	CUSTOMER
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

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
  - Refactoring of customer specific extensions. However, the SAP Hybris application consulting team will provide information and a roadmap to assist with the refactoring in the technical upgrade analysis. The Customer has the option to engage SAP for the refactoring project(s) if desired.
- 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 service are deemed out of scope, including, but not limited to the following exclusions:

- Deliverables not explicitly described in this Scope Document
- 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 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

5. SAP Deliverables

The following table lists the SAP Deliverables.

SERVICE	DELIVERABLE	COMPLETION CRITERIA
Upgrade benefits assessment	Summary Report	Summary Report will contain: • Key areas discussed during the workshop • Recommendations on how to maximize out-of-the-box functionality • Functionality currently delivered with custom-coded features that can now be replaced • New product features that may help increase customer ROI and address business objectives • Further recommendations
Technical Upgrade Analysis	Summary Report	Detailed Upgrade Analysis Report will cover the following aspects: • Initial upgrade project scope definition • Recommended upgrade approach and technical challenges • Effort estimation and high-level project schedule • Proposal for split responsibilities between SAP Hybris Expert Services and Customer or partner teams
Platform and database upgrade	Upgraded platform	• Development environment with customer configuration and extensions deployed. Some customer extensions and configurations may not work and may need to be refactored as per the Technical Upgrade Analysis (see 'Out of Scope' Section)
Go-Live Quality Review	Summary Report	• Quality Review document outlining findings and recommendations

About SAP Hybris

SAP Hybris enables businesses to transform how they engage with customers, innovate how they do business, and simplify their technology landscape. With a comprehensive approach to customer engagement and commerce, our solutions unlock opportunities to optimize your customers' experience and transform your business. We help you drive relevant, contextual experiences across all of your customer touch-points in real-time, so that you can create strong differentiation and build competitive advantage in the Digital Economy.

SAP Hybris has helped some of the world's leading organizations transform themselves in response to changing market conditions and customer expectations – delivering exceptional experiences, adding new channels, evolving their business models, and entering new markets. How can we help you?

Explore SAP Hybris solutions today. For more information, visit www.hybris.com