

SAP Hybris C4C-UPM Integration Process Overview

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Section 1: Overview

SAP Hybris Cloud for Customer (C4C) is a cloud solution to manage customer sales, customer service and marketing activities efficiently and is one of the key SAP solutions to manage customer relationships. SAP C4C provides the best CRM-based sales, service and marketing practices, including options to access mobile devices. In April 2016, SAP renamed their Cloud for Customer solution to SAP Hybris Cloud for Customer.

SAP Hybris C4C is based on the following base SAP CRM and SAP C4C individual products:

- SAP Cloud for Sales
- SAP Cloud for Service
- SAP Cloud for Marketing

The key objectives of SAP Cloud for Customer are:

- Relationships
- Collaboration
- Insight
- Business processes

ZINFI's Unified Partner Management (UPM) solutions enable organizations selling via the channel to integrate the full spectrum of channel partner management activities—from recruitment, onboarding, training and certification to lead management, co-branded demand generation, sales performance and success, and on to fulfillment and renewal management. Powered by the efficacy and superior user experience of ZINFI's UPM platform, any organization can build a high-performing channel and realize increased return on investment (ROI) from partner sales.

ZINFI provides an integration solution between ZINFI UPM and SAP Hybris C4C. This is accomplished via SAP Hybris C4C's OData API Reference or via APIs provided through SAP Cloud Platform Integration (HCI), which consists of web services provided through open APIs (OData and SOAP Web Service APIs) and mashups for URLs, HTML and data integration. The solution allows the channel manager at an SAP Hybris C4C instance to share records with partners at a UPM instance. With integration, the channel manager no longer needs to enter identical records in both systems and can monitor partner activities from the SAP Hybris C4C instance without requiring a license for each partner.

The solution enables easy and efficient synchronization of leads, contacts, accounts and opportunities between ZINFI UPM and SAP Hybris C4C.

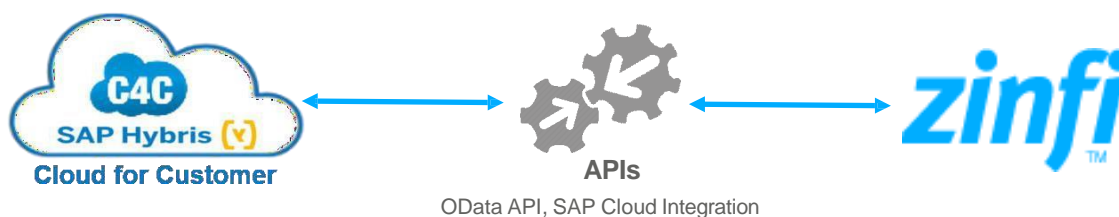


Figure 1

1.1 SAP Hybris C4C-UPM Integrator Architecture

1.1.1 OData APIs

Open Data Protocol (OData)

OData is RESTful, an open standard based on the Atom Publishing and Atom Syndication standards, which in turn are based on XML and HTTP(S), providing a vendor-neutral, web-based API that fully complies with the design principles of Representational State Transfer (REST). OData is extensible, allowing supplementation of data types used by OData. OData structure is illustrated in Figure 2 below.

SAP Cloud for Customer, specifically, supports V2.0 of the OData protocol.

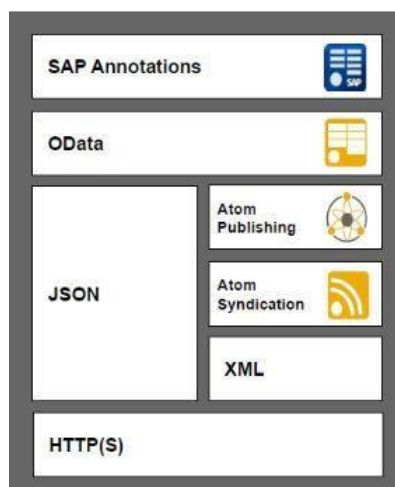


Figure 2

OData Advantages

- OData is an open standard protocol that allows service providers to define access to their resources in a standardized manner. The service definition is available via the service metadata document (EDMX).
- OData allows resources (entity sets) to be identified using Uniform Resource Identifiers (URIs) and defined in an abstract data model. For example, if user wants to access Employee with the primary key as 1, the details of the URI would be `http://<server name>/<service name>/Employees(1)` with the HTTP GET operation.
- The data format for exchange is Atom XML or JSON.
- The OData protocol is very flexible due to the availability of associations which define the relationship between entity sets. For example, let's say when retrieving employees you would also like to get HR information. If HR is defined as an association, then retrieval of HR information is possible in one single call, and also directly by modifying the URI appropriately.

OData Service Life Cycle

The OData service life cycle includes the span of an OData service. The key steps to be considered in an OData service life cycle are listed below:

- Activation of OData service.
- Maintenance of OData service.
- Maintenance of models and services, up to the cleanup of the metadata cache.
- RESTful applications use HTTP requests to post data to create or update, read data and delete data. REST uses HTTP for all four CRUD (create/read/update/delete) operations.
- REST is a lightweight alternative to mechanisms like RPCs (remote procedure calls).

1.1.2 Integration Process using OData API

The OData API is used by ZINFI's UPM to query, read, add, update and delete data from and into SAP Hybris Cloud for Customer.

Accessing OData API

ZINFI's UPM accesses the SAP Hybris Cloud for Customer OData API of your tenant, with the URL pattern: `https://<your_tenant>/sap/c4c/odata/v1/c4codata`.

Accessing Metadata of the OData API

ZINFI's UPM accesses the metadata of the OData API of your tenant, with the URL pattern: `https://<YourTenant>/sap/c4c/odata/v1/c4codata/$metadata`.

Authentication and Authorization

ZINFI's UPM provides authorization and authentication to SAP Hybris C4C users through OAuth 2.0. Using OAuth 2.0 requires a trust relationship to be configured between SAP Hybris Cloud for Customer and the identity provider of ZINFI's UPM.

SAP Hybris C4C OData Entity API Reference

The following entities at SAP Hybris C4C are readily supported by ZINFI's UPM:

- Account entity type
- Contact entity type
- Sales lead entity type
- Opportunity entity type
- Employee entity type
- Product entity type
- Service request entity type

OData Service Explorer

The OData Service Explorer view in the SAP Hybris C4C Administrator work center allows you, as an end user, to create, edit and manage your OData services.

- This view lists the services that are created by you and the standard OData services offered by SAP.
- To view the services created by you, select Custom OData Services from Show. To view SAP OData Services, select SAP OData Services from Show.
- In the Custom OData Services view, you can also download an OData service, by selecting a service and clicking Download.

The OData Console has two key features as follows:

- Exploring OData Services – This feature lets ZINFI's UPM see all the entities that are available in the service, and also presents the properties of the entities in an intuitive way.
- Testing OData Services – This feature simplifies the process of testing the OData service, wherein the user can perform HTTP operations like Get and Post without getting into the finer details of syntax or authentication.

Integration Process Flow

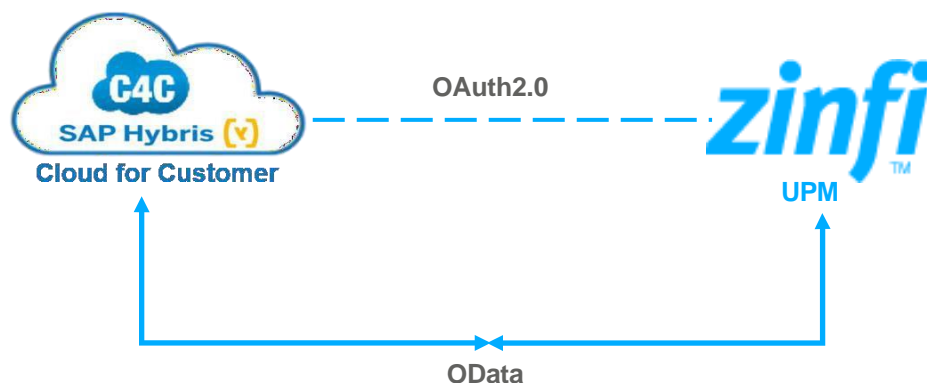


Figure 3

Steps

- ZINFI's UPM provides authorization and authentication to SAP Hybris C4C users through OAuth 2.0.
- ZINFI's UPM accesses the SAP Hybris Cloud for Customer OData API of your tenant.
- ZINFI's UPM accesses the metadata of the OData API of your tenant, if needed.

1.1.3 Integration Process Using Cloud Integration

Overview of Cloud Platform Integration

As SAP's strategic integration platform for SAP Cloud customers, SAP Cloud Platform Integration makes cloud integration simple and reliable. It provides out-of-the-box connectivity across cloud and on-premise solutions. It can be used to integrate SAP Hybris C4C with any non-SAP application. It functions as its own cloud middleware, positioned for integration via SAP prepackaged integration content that is already built in. However, the Cloud Platform Integration is a standalone cloud middleware that can integrate anywhere to anywhere.

The middleware enables customization of the integration as well as design of new integration scenarios.

SAP Cloud Integration provides:

- Cloud-based technology
- Real-time, bi-directional process integration
- Data integration
- Graphical flows and mappings
- Centralized monitoring and administration
- Pre-built adapters (OData adapters)
- Community marketplace (future)
- Lower cost of change over time

Creating OData Service in Cloud Platform Integration

The OData Provisioning feature is designed for today's increasing demand to consume data from various sources in a simple and standard way. This feature converts non-OData protocols to OData protocols. With this feature, SAP applications are able to consume data from different sources such as SOAP and REST as OData services provided by ZINFI's UPM.

SAP provides a wizard that helps us easily create OData services from ZINFI's UPM using SOAP, REST and other protocols and achieve mashup scenarios. Mashup scenarios can be defined as data sourced and mixed up from multiple systems and applications using different protocols and filtered data exposed as OData to end users and apps for consumption according to business needs.

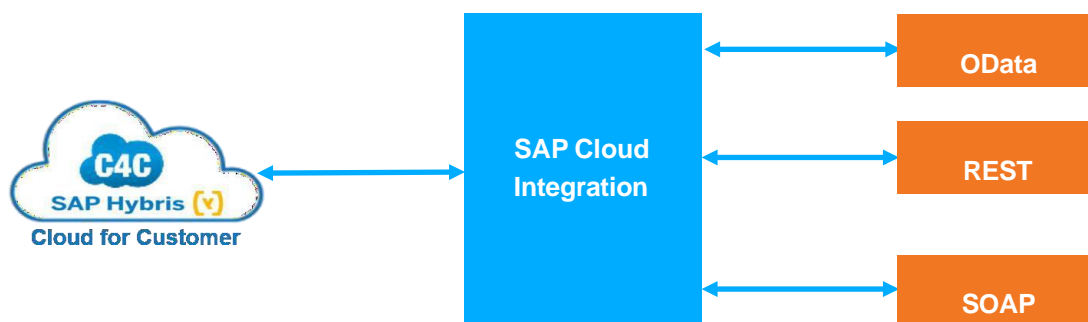


Figure 4

The OData Provisioning feature converts non-OData protocols to OData protocols. The following are possible:

- Create OData service based on an existing SOAP Service.
- Create OData service based on an existing OData service.
- Create OData service for REST data sources.
- Service mashup of up to three data sources: SOAP, REST and OData.

With the OData Adapter available in the receiver channels of HCI, we can connect to any OData service provider and perform the required operation required for your integration scenario. The HCI platform also provides full pipeline capability when using the OData Adapter. When data is fetched from the OData Service either in Atom XML or JSON format, the adapter automatically converts this to XML and the payload can be used with any of the steps (e.g., mapping) available in the platform. Similarly, when sending data back to the OData service via the PUT or POST operation, the data is converted back from XML to JSON or Atom XML format automatically by the adapter. The OData adapter in HCI supports v2.0 of OData protocol.

Authentication Process

The integration process supports the following authentication mechanisms:

- OAuth SAML bearer flow

Integration Process Flow

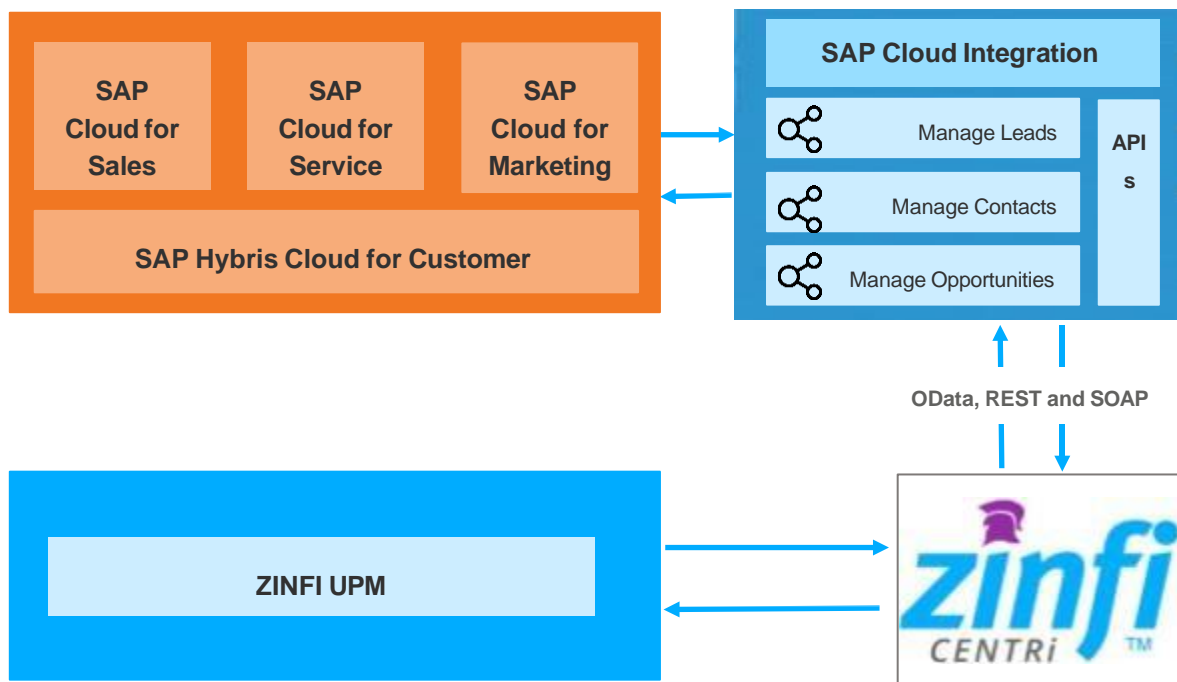


Figure 5

Steps

- **ZINFI UPM** requests access to SAP Hybris C4C object through ZINFI Centralized Interconnect (CENTRi™).
- **ZINFI's CENTRi** connects to SAP Cloud Integration through APIs and processes all requests from those external systems. The external systems communicate through CENTRi's secured APIs, and the internal systems of ZINFI's UPM communicate directly through CENTRi's data access layer.
- **SAP Cloud Integration** authenticates the request and is used to integrate SAP Hybris C4C by functioning as its own cloud middleware, positioned for integration via SAP prepackaged integration content that is already built in.
- **SAP Hybris C4C** provides details of the object requested to SAP Hybris C4C, which in turn forwards the details to ZINFI UPM's CENTRi, which further propagates the details to the receiving object at the UPM end.

1.2 Integration Process Summary

Process	Summary
Designing Integration within SAP Hybris C4C	Create and manage the design objects needed for your integration scenario.
Configuring Integration within SAP Hybris C4C	Configure the required integration objects.
Designing and Configuring Integration within ZINFI UPM	Design and configure the relevant integration scenarios, including business objects, mapping, routing and so on in ZINFI UPM.
Handling Messages across SAP Hybris C4C and ZINFI UPM	Integration process (OData Web Service APIs) is configured and validated with ZINFI UPM, and handshaking is established. No user actions are involved during message handling. Incoming messages are processed and sent to the relevant receiver; a message can include integration processes.
	Note: It is important to consider where the process flow is initiated. For example, the SAP Hybris C4C instance might need to determine the receiver and all relevant steps in getting a message, or it might need to send the JSON a message using technical adapters to ZINFI UPM or vice-versa.
Monitoring Processes	Monitor message processing, including throughput and performance of the appropriate integration technology.

Table 1

1.3 User Management Techniques

In SAP Hybris C4C, user management is focused on maintenance of employee records in the system and the creation of users and business roles. Different access rights and data restrictions can be assigned to users according to their business roles.

UPM allows administrators to create business roles to standardize system access and assign business roles to work centers associated with specific job functions. Access rights are predefined in the form of a template.

UPM offers the following featurettes to manage users:

- With the Identify and Access Management (IAM) module, administrators can dynamically set up and manage users, groups and granular access rights to various portal pages, applications, campaign content and assets.
- The Users Management module allows administrators to quickly set up users and assign them to various groups and profiles.
- The Partners Profile Management module can be used to granularly manage partner records, such as accounts, contacts, performance data, etc. Using this module, organizations can segment partners effectively into groups with various parameters for optimized management capabilities.

1.4 SAP Hybris C4C Data Migration and Workflow

In SAP Cloud for Customer C4C, data migration features enable you to transfer legacy data from the SAP Hybris C4C instance to ZINFI's UPM using predefined templates.

Rules

You can define and activate rules for updating fields and set up notification automatically. When a condition is met, the field update automatically changes the value of fields.

You can also set up notifications to users to inform them that an item has been changed and a task has been completed successfully. Email notifications can also be sent to customers. For example, you can configure a notification to a user to be triggered when the user's ticket status has changed.

When defining workflow rules, you specify basic data for each rule. You also specify the conditions under which the rule is invoked, a field is updated or a notification is sent. In the case of a notification, you can also specify the list of recipients.

Workflow rules for automatic field updates can be defined for:

- Accounts
- Contacts
- Opportunities

1.5 SAP Hybris C4C Entities That Can Be Mapped to UPM

The integration process may include, but is not limited, to the following entities and depends on updated integral entities made available by SAP Hybris C4C through its APIs.

1.5.1 SAP Hybris C4C – Cloud for Sales Entities

Lead: Capture information from potential clients or customers that can then lead to a sale.

Account and Contact: Make fast account updates, get complete customer intelligence and keep everyone in the loop so that you and your team are delivering the right impact in every customer conversation.

Opportunity: Accelerate sales wins by rapidly tracking activities, collaborating with internal teams, customers and partners, keeping tabs on the competition, and obtaining guided selling materials for each deal.

Sales Quote: Create and submit quotes to align with your internal approval process.

Sales Order: Create sales orders utilizing the robust integration features available on the back end.

1.5.2 SAP Hybris C4C – Cloud for Service Entities

Incoming Communications: Via configured communication channels (e.g., email, social media accounts, phone calls, and live chat).

Processing: Automatic steps, applied by the system (e.g., text analysis or real-time customer lookup), as well as manual steps performed by customer service roles to further clarify and categorize the customer's issue.

Resolve Issue: From simple to complex cases, ease of use is critical for the agents.

Response: Response flexibility enables the agent to respond to the customer using either the original communication channel or by switching to a new method of communication.

Close: The ticket is completed by the agent; individuals, managers and teams can use analytics to review whether they are meeting their own performance goals or benchmarks.

1.5.3 SAP Hybris C4C – Cloud for Marketing Entities

Marketing Funds: Assign and track both planned marketing budgets and actual marketing spending.

Campaigns: Manage all measures within the campaign management process, such as channel determination, assignment of forms and target groups, campaign execution and response tracking.

Email Execution: Conduct direct email campaigns with personalized HTML email messages sent directly from the SAP Hybris Cloud for Customer system to each account or contact of the assigned target group (with valid email address).

Lead Generation: Record raw data derived from campaigns, trade shows and other marketing activities. You can also edit leads, and convert leads to follow-on items, such as opportunities or accounts and contacts, to drive sales activity.

Section 2: Case Study

2.1 SAP Hybris C4C – UPM Integration Flow

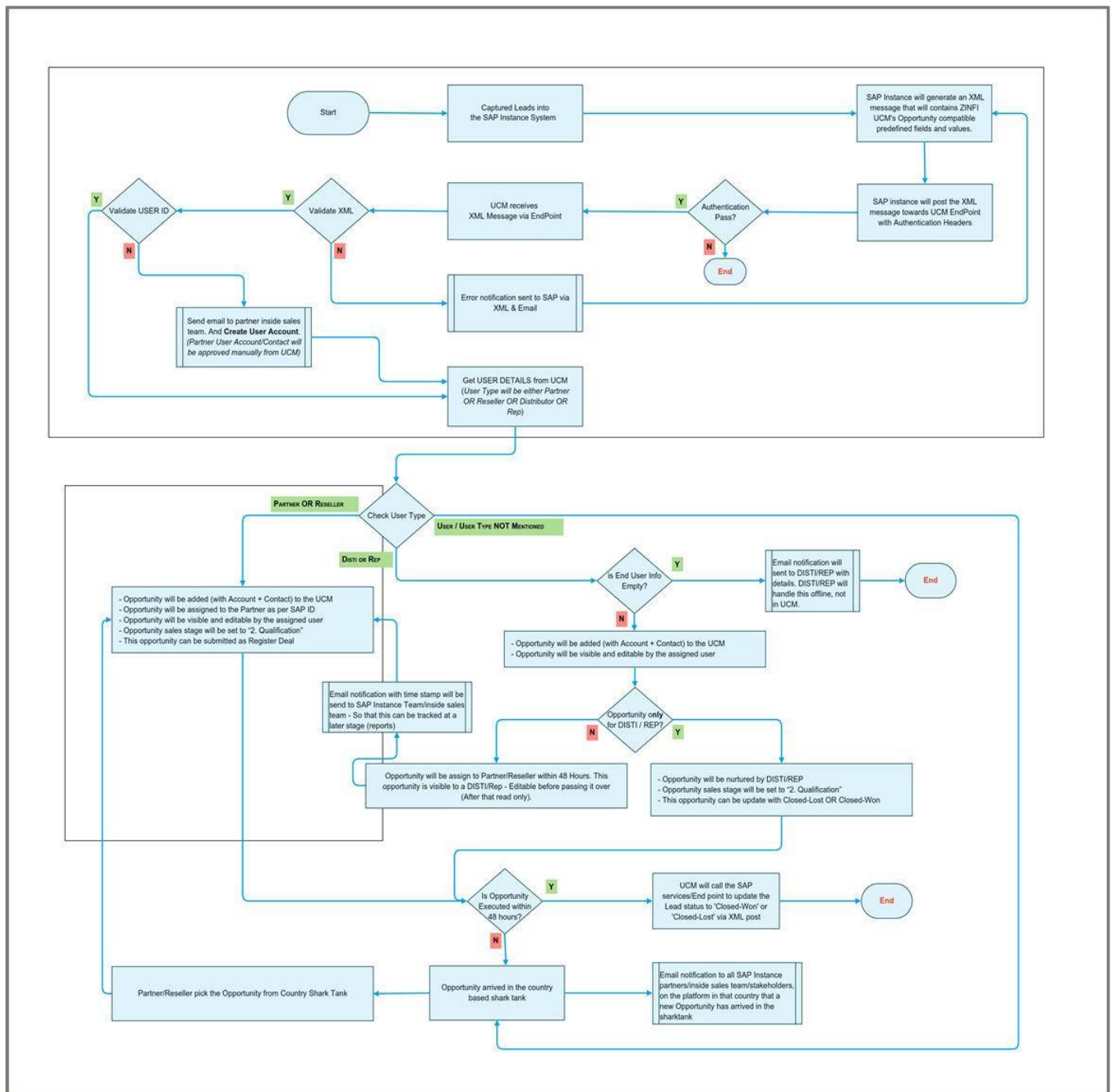


Figure 6

2.2 Integration Use Case Summary

User	System	Use Case	Summary
Channel Manager	SAP Hybris C4C	Capture leads	Logs into SAP Hybris C4C instance and captures lead info.
		Forward leads	SAP Hybris C4C instance posts the OData (JSON/XML) message to UPM end point with authentication headers.
Channel Partner	ZINFI	View leads	Logs into ZINFI UPM instance. All leads received by the partner are listed on the Opportunities page. All leads are sorted by the date and time received, with the most recently received lead at the top.
	ZINFI	Update opportunity	Lands on the Edit Opportunity page. The partner will be able to fill out only the following fields: <ul style="list-style-type: none"> • Opportunity Name • Estimated Amount • Estimated Close Date • Sales Stage The partner can save with Sales Stage but Register Deal will only be active once the status is Closed Won or Closed Lost.
	ZINFI	Inform SAP Hybris C4C instance team	Email notification with time stamp is sent to SAP Hybris C4C instance team/inside sales team so this can be tracked at a later stage in reports.
	ZINFI	Save and send	Once the partner clicks on Save / Register Your Deal, the ZINFI UPM sends out an OData (JSON/XML) message via web services API informing the SAP Hybris C4C instance about the lead status (Closed Won or Closed Lost).
Channel Manager	SAP Hybris C4C	View opportunities updates by partners	Views the opportunity update from ZINFI UPM, which has called the SAP Hybris C4C services/end point to update the lead status to Closed Won or Closed Lost via OData (JSON/XML).

Table 2

2.3 Context Diagram

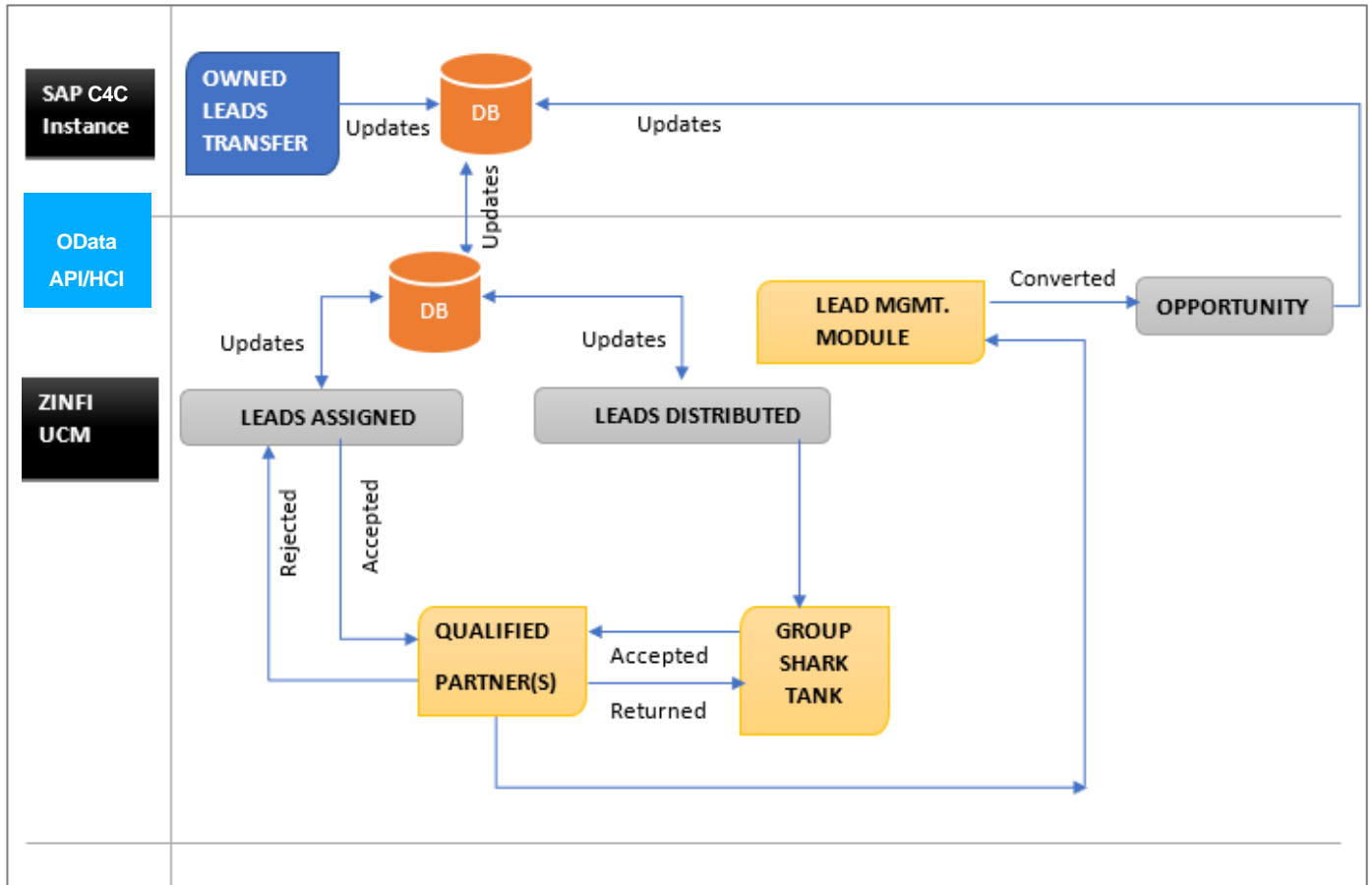


Figure 7

2.4 Process Summary

1. Channel marketing manager/admin captures lead into the SAP Hybris C4C system
2. SAP Hybris C4C system generates an JSON/XML message from captured lead (opportunity in UPM) with the following data:
 - a. Security key (to validate the request)
 - b. JSON/XML string containing account and contact info
 - c. UPM user ID (user IDs will be pre-synced with instance)
3. SAP Hybris C4C system posts JSON/XML message to UPM endpoint
4. UPM end point receives the JSON/XML message and performs the following:
 - a. System validates the security key
 - i. If valid...
 1. System accepts the incoming requests
 2. Proceed to UPM user ID validation (4.b)
 - ii. If not valid...
 1. System rejects the incoming request
 2. All processes are terminated
 3. An email will be sent to SAP instance associates – email feedback loop
 - b. System validates the UPM user ID in UPM database
 - i. If found:
 1. Proceed to validate the JSON/XML message (4.c)
 2. System fetches the USER TYPE from UPM Database
 - ii. If not found (UPM user ID is created OR UPM admin creates new user ID):
 1. Process is terminated
 2. An email is sent to SAP Hybris C4C instance associates for feedback
 3. A notification email is sent to UPM admin

- c. System validates the JSON/XML message
 - i. If not valid:
 - 1. Process is terminated
 - 2. An email is sent to SAP Hybris C4C instance associates – email feedback loop
 - ii. If valid:
 - 1. UPM system analyzes the JSON/XML and extracts opportunity (account and contact) information
 - 2. UPM system checks the USER TYPE and starts opportunity processing (4.d)
- d. Opportunity processing
 - a. If USER TYPE = PARTNER || RESELLER...
 - i. The opportunity is added to UPM
 - ii. The opportunity is assigned to the partner as per UPM user ID
 - iii. The opportunity is visible and editable by the assigned user
 - iv. The opportunity sales stage is set to “2. Qualification”
 - v. The partner receives an email
 - vi. This opportunity can be submitted as Register Deal
 - b. If USER TYPE = DISTRIBUTOR || REP...
 - vii. The opportunity is added to UPM
 - viii. The opportunity is assigned to the CMM (can be configurable)
 - ix. The distributor/rep receives an email
 - x. The opportunity appears in the Opportunity Inbox for further assignment; after assigning to partner, steps beginning at 4.d.a.i continue

Section 3: Features and Benefits

ZINFI's solution for integration between SAP Hybris C4C and UPM allows organizations to:

- Scale and govern access to enterprise data with improved policies, security and traffic management
- Give business partners simplified access to back-end services and complex landscapes
- Use insights from advanced analytics to accelerate innovation and open new revenue streams

Integration between SAP Hybris C4C and UPM is used primarily to synchronize data between the two systems—for example, to make information available in a timely manner for financials, performance management and various business functions managed by both SAP Hybris C4C and UPM.

Other SAP Hybris C4C-UPM integration uses include:

- Synchronizing leads between SAP Hybris C4C and ZINFI UPM
- Sending data for won opportunities in UPM to SAP Hybris C4C for final approval

When SAP Hybris C4C and ZINFI UPM are properly integrated and configured, organizations are able to streamline and fully automate their business processes. Companies further benefit from SAP Hybris C4C and UPM integration in the following ways:

- Elimination of the need for dual data entry, saving time and money
- Fewer data redundancies and errors caused by manual data entry
- Enhanced agility to act on new information quickly
- Reduced software licensing costs: partners operate from their individual UPM instances, while the channel manager/OEM operates from the SAP system.