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| Functional Specification: Interface |  |

Functional Specification – Interface

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| **Object Id** | CMR-I-004 |
| **Object Name** | Address search |
| **Project Name** | CRM Replacement Project |

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**Document Control**

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**Final sign off <mention the final sign off from, e.g. Cadent Gas and HCL leads, architects and management>**

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| **Document** | **Location** |
| Scope Document reference |  |
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**General Instructions**

***Before submitting for approval, make sure that***

* ***the document is complete and accurate and all information is updated (i.e. status)***
* ***the document has been spell checked and grammar checked***
* ***the document meets the requirements as indicated in the template***
* ***the Functional Consultant (Author) completes the Checklist on the last page.***

***General Comments:***

* ***Define acronyms and abbreviations.***
* ***Use consistent terminology.***
* ***Focus on Functionality in this document.***

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# Interface – Overview and Scope

## Functional Description

The purpose of this Functional Specification is to provide a link from SAP CX to IDOX, where an address search is required. SAP CX requests the data from IDOX, which searches its database and passes back data to SAP CX.

The scope of RICEFW CMR-I-004 covers the mechanism of automatic transfer of requested address data from SAP CX to IDOX and returned address data from IDOX to SAP CX, when an address is found at the time of an address search, for example:

* Single Address Found – address populates the customized address fields
* Multiple Addresses Found – Where multiple candidate addresses have been returned the user will ask the customer to confirm which address is correct and select the address from a drop-down list, or they may need to refine their search until they reach the lowest level of data held in the database
* Where no address match has been found a message will be presented stating ‘No match found’ and the user can elect to retry the address search. If an address exists and it is not found as part of the address search, the user can create a temporary address record by manually entering the address in the address fields. This process will be coved in RICEFW CMR-I-004a
* Where an address is not known the user will click on the use map button and invoke RICEFW CMR-I-008. In this scenario, no address will be captured against the call transaction and the call location will be represented by an XY coordinate derived from the map

|  |  |
| --- | --- |
| **Priority:** | Must Have  Should Have  Nice to Have |
| **Complexity**: | Very Complex  Complex  Medium  Simple |

**New requirement - IDOX API changes required**

Please note that the integration with the Idox system relies on its external API. The GIS team has identified that changes to the Idox API are required. These changes will be implemented and will ensure the continued functionality of the existing CRM system.

However, it is a key requirement that the new SAP CX environment, and any future development related to address searches, must also be designed and built to be compatible with these updated Idox API specifications.

The BTP team should be aware of this dependency and factor in potential adaptations needed within the BTP Build Apps and/or CPI components to accommodate these Idox API changes.

**Background**

Following the implementation of the IDOX address solution to provide address and related information to Cadent the information being supplied is incorrect as the date fields within the XoServe data are not being accounted for.

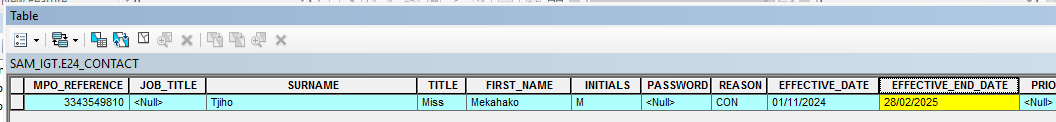
This means that when information has expired (e.g. a customer contact has moved out) the information is still being provided to Cadent for use in Work Order creation through the API.

There are additional fields that have been identified by the business as being required in the API for use in business processes such as GSOP.

**Requirements:**

1. Logic changes to the Information returned in the API.
   1. The Contact information in the MPRN Section should only be populated if the current date is between the “Effective\_Date” and “Effective\_End\_Date” fields found in the E24 records from XoServe or the “Effective\_end\_date” is Null.

Example MPRN – 3343549810 – Effective End Date is 28/02/25, details are returned in Swagger.

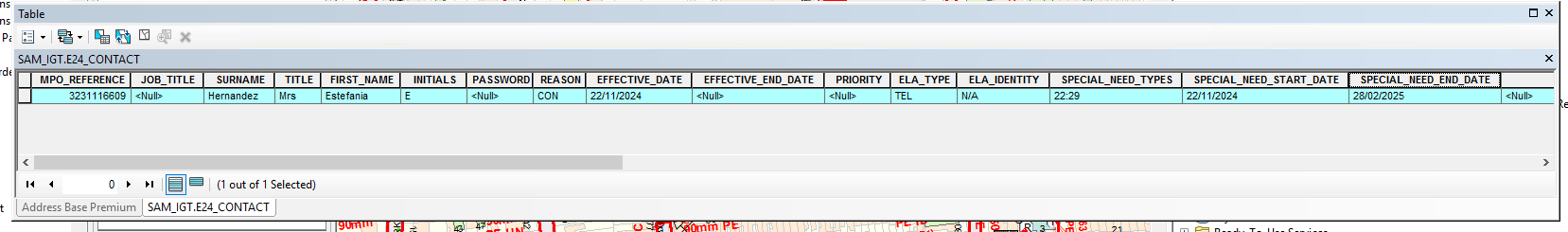


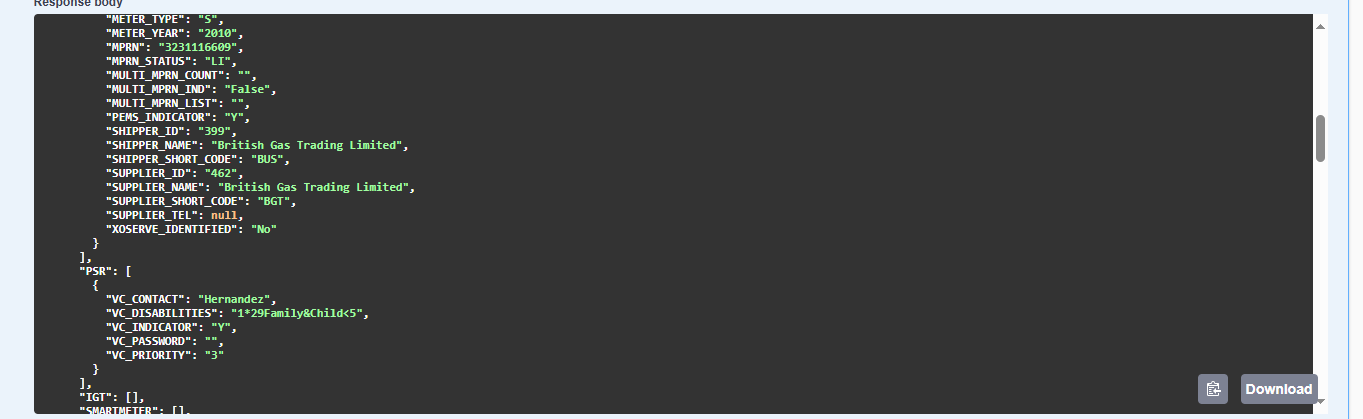
A computer screen shot of a computer code

AI-generated content may be incorrect.

* 1. PSR information in the PSR Section should only be populated if the current date is between the “PRIORITY\_SERVICE\_START\_DATE” and the “PRIORITY\_SERVICE\_END\_DATE” fields in the E24 records from XoServe or the “PRIORITY\_SERVICE\_END\_DATE” is Null.

Example MPRN – 3231116609 Priority Service end date is 28/02/25, details are returned in Swagger





* 1. Multiple entries are being returned for Supplier information. As each MRPN should only have a single supplier, the confirmation with the most recent “Start\_date” should be presented in the API

Example – MPRN 2184811400 – Supplier changed on 28/5/24, both old and new supplier are returned in Swagger

A screenshot of a computer

AI-generated content may be incorrect.

Old Supplier in Swagger

A black rectangular object with white text

AI-generated content may be incorrect.

New Supplier in Swagger

A black rectangular object with white text

AI-generated content may be incorrect.

1. Additional Fields required in the API

There are XX additional fields that should be presented through the API. All fields should be applied to these three end points:

* Gas Pattern Search
* Gas UPRN
* Gas Xref (for MPRN searches)

There are 6 new fields that should be presented as part of the “MPRN” section:

* NWO\_SHORT\_CODE – Sourced from the XoServe E22 records
* MARKET\_SECTOR\_CODE – Sourced from the XoServe E23 records.
* EFFECTIVE\_DATE – Sourced from the XoServe E24 records.
* EFFECTIVE\_END\_DATE – Sourced from the XoServe E24 records.
* PRIORITY\_SERVICE\_START\_DATE – Sourced from the XoServe E24 records.
* PRIORITY\_SERVICE\_END\_DATE – Sourced from the XoServe E24 records.

There are also 2 new fields that should be presented as part of the ‘”addressBase” section. These are included because we have had a handful of cases where this information was needed to complete an address:

* Dependent Thoroughfare – sourced from DEP\_THOROUGHFARE\_NAME in the DPA table from Address Base Premium.
* Double Dependent Locality – sourced from DOUBLE\_DEPENDENT\_LOCALITY in the DPA table from Address Base Premium.

## Dependencies & Constraints

* Connectivity from SAP CX to BTP/ SAP Cloud Platform Integration in all environments
* Connectivity from SAP Cloud Platform to AA-GMS application in all environments
* System performance needs to be considered during technical design to ensure performance can be maintained while searching the address from IDOX

## Assumptions

* Cadent Gas will be using IDOX to manage Address Data , Xoserve and IGT data
* Search Address is triggered by using postcode as an input, from the source application SAP CX, via BTP/SAP Cloud Platform Integration to the target Idox AA-GMS application.
* Search Address performed and a list of addresses for the postcode returned from the source application AA-GMS, via SAP Cloud Platform Integration/BTP to the target SAP CX application.
* Where no matching IGT value can de determined in IDOX, a check for IGT will be made via interface CMR-I-006, with GISaaS. This identifies geographic attributes for a call location (E.g. IDN / RDN, Related Incident, Non-lone working area).
* Xoserve and IGT information will not be stored in CX; it will be held in runtime memory and can be passed to SAP S4 for Work Order creation
* SAP BTP/CPI will be used as an integration solution for IDOX and CX.
* IDOX will provide the logic that identifies address matches in the database, from the address information that has been entered in to the free text address search field in SAP CX.
* It is not possible to search address using XY co-ordinates.

## Initiating Process / Transaction / Program

Triggers for this interface to search for address data in IDOX from SAP CX via BTP/CPI will be:

* Address required for Emergency (IDN & RDN) Contact

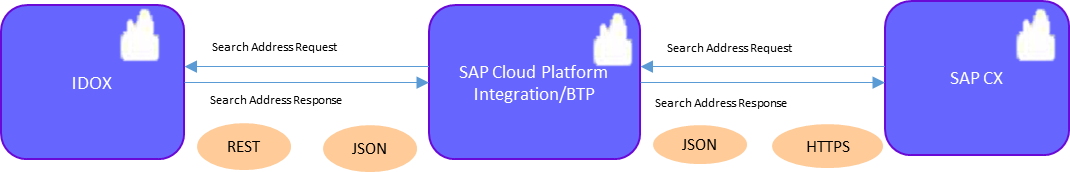
The above-mentioned activity will trigger the search address functionality in IDOX, from standard CX screens used for searching and creating addresses, such as the Customer Details screen. Once an address has been searched, found and selected from IDOX, standard SAP CX functions will be used to retrieve associated business partner records (e.g. Customer) in CX. The LocatorHub ID for the selected address record will be used by SAP CX in this case.

### 

**Integration CMR-I-004 Search Address**

This is a near real-time integration from SAP CX to AA-GMS (IDOX). The integration will utilize BTP/SAP Cloud Platform Integration.

The diagram below shows the end-to-end process flow, detailing how the search address data is sent to the target AA-GMS application and the address search response returned to the source SAP application.



**Figure: Address Search Management**

**Performance Considerations**

The interface should return candidate addresses from IDOX and display the window in SAP CX from which the user can choose the correct address within 1 second for 95% of searches (current ECHP performance was tested to take 0.08 seconds for a postcode search and 0.04 seconds for a postcode with house number).

Once the correct address has been chosen the interface needs to be able to pass the address data from IDOX to the required fields in SAP CX within 1 second for 95% of searches (current ECHP performance tested to take 1.9 seconds).

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## 

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Type** | **Volume** | **Notes** |
| **Search Address** | Daily | 400 -500 | As per the GIS refresh Address management Integration solution design |

## 

## Detailed Process Description with Processing Logic

The requirement is to enable the contact centre agent to identify the contact location by means of an address search. IDOX will support address searching against several data sources.

The contact centre operative must first establish the nature of the contact. The nature of the contact will determine whether a location must be identified, and whether an address search should be carried out.

The following scenario requires the identification of a location or address: -

* Emergency Contact

When a Contact Centre Agent receives an emergency support call in SAP CX, their first action is to create a new Account. The system requires the "Name" and the assignment of the "Emergency" "Role" at a minimum for initial creation.

After saving and opening the Account, the agent proceeds to the "Address" section and clicks the "Address search" button. This action triggers a real-time address search initiated through BTP Build Apps.

Within the BTP address search interface, the agent enters relevant search criteria (e.g., House Number, Street, City, Postal Code, Country) and submits the query by clicking "Search." This results in BTP querying IDOX (IDOX1) and presenting the agent with a list of up to 200 matching addresses.

Upon the agent's selection and confirmation of an address, the system (BTP) temporarily stores the associated "UPRN" and "Formatted Address." Subsequently, using this UPRN, BTP retrieves further address details from IDOX (IDOX2) and stores the same in BTP itself.

Concurrently, a set of standard address fields is sent via BTP to the SAP CX system and automatically populated within the "Address" section of the relevant Account.

API:

GET: /sap/c4c/api/v1/account-service/accounts/{id}

PATCH: /sap/c4c/api/v1/account-service/accounts/{id}

Business Logic –

* Identification of Search Address API to be triggered to retrieve search results from target application.
* Search Address request data sent to SAP BTP/Cloud Platform Integration via a synchronous API
* Search Address response data received from SAP Cloud Platform Integration/BTP via a synchronous API and transferred to the existing data structures.

SAP CX makes a API call to BTP/SAP CPI with the address data. SAP CPI will in turn call the IDOX webservice to pass the data. IDOX internally queries and passes the matches that are found back to CPI and CPI/BTP would in turn pass it back to CX.

If an address exists and no matching address record can be found using the search to IDOX, then the user may elect to create a temporary address record in IDOX. This is detailed as a part of the FS CMR-I-004a. This data will be passed back to CX and it is reconciled in CX.

Example scenario is detailed below:-

**[Main Flow – single address returned by IDOX]**

**Step-by-Step Process: Emergency Account Creation and Address Population in SAP CX**

1. **Emergency Call Received:** A Contact Centre Agent receives an emergency support call within the SAP CX system.
2. **Create New Account (Minimum Requirements):** The agent's first action is to create a new Account in SAP CX. The system requires the agent to enter at least the "Name" for the account and assign the "Emergency" "Role" to it.
3. **Save and Open Account:** After entering the minimum required information, the agent saves the newly created Account and opens it.
4. **Navigate to Address Section and Initiate Search:** The agent navigates to the "Address" section within the opened Account and clicks the "Address search" button.
5. **BTP Address Search Triggered:** Clicking "Address search" initiates a real-time address search process powered by SAP BTP Build Apps.
6. **Enter Search Criteria in BTP:** Within the BTP address search interface, the agent enters relevant address details such as House Number, Street, City, Postal Code, and Country.
7. **Submit Search Query in BTP:** Once the search criteria are entered, the agent clicks the "Search" button within the BTP interface.
8. **BTP Queries IDOX (First call):** BTP then sends a query containing the entered search criteria to the external system IDOX (First call to IDOX).
9. **IDOX Returns Matching Addresses:** IDOX processes the query and returns a list of up to 200 matching addresses to the BTP interface.
10. **Agent Selects and Confirms Address:** The agent reviews the list of addresses presented in BTP and selects the correct address. Upon selection, the agent confirms their choice.
11. **BTP Temporarily Stores UPRN and Formatted Address:** When an address is selected and confirmed, BTP temporarily stores the associated "UPRN" (Unique Property Reference Number) and the "Formatted Address."
12. **BTP Retrieves Further Details from IDOX (Second call):** Using the temporarily stored UPRN, BTP initiates a subsequent request to IDOX (second call) to retrieve more comprehensive address details.
13. **BTP Stores Detailed Address Information:** IDOX responds to BTP with detailed address information, which is then stored within the BTP environment.
14. **BTP Sends Standard Address Fields to SAP CX:** Concurrently, a set of standard address fields is transmitted from BTP back to the SAP CX system.
15. **Address Section in SAP CX is Automatically Populated:** The standard address fields sent by BTP are automatically populated within the "Address" section of the relevant Account in SAP CX, completing the address entry process.

## Screen layout for Address search would be provided by CX team (Prototype IDOX to CX)

Screen shots will be provided by CX team

BTP Inputs required - How will BTP Build Apps be utilized in this integration.

#### **Request Data**

The request data fields sent **will be extended**.

The same information will be sent to SAP Cloud Platform Integration layer but will include some additional fields required by the target application.

Any mapping required (including default fields) will take place in the integration layer to limit the level of change required in the SAP application.

The following table shows all fields that will be sent:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FIELD** | **SOURCE** | **TYPE** | **FORMAT** | **REQ** | **LENGTH** | **NOTES** |
| API\_NAME | **Constant values to be passed.**  GasPartnerSearch  GasUPRN  GasXref | CHAR | Please refer to fixed values | Yes | Please refer to fixed values | Row fixed values that can be passed will be used in integration to route the request to the correct API in the target application |
| PATTERN | **Concatenation of**  ADRC-HOUSE\_NUM1  ADRC-STR\_SUPPL1  ADRC-STREET  ADRC-CITY1  POST\_CODE1 | STRING | STRING | No |  | The length of the field is based on the query length allowed on the target application only.  Fields concatenated with no spaces and is based on concatenation in BAU |
| UPRN |  | STRING | STRING | No | 12 |  |
| MPRN |  | STRING | STRING | No |  |  |

#### **Response Data**

The target application for the data is AA-GMS There will be a number of datasets returned from an address search. The datasets are:

* Address information
* XOSERVE data
* IGT data
* PSR data
* Smart Meter data

The following table shows all fields that will be returned for each of these datasets:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FIELD** | **TARGET** | **TYPE** | **FORMAT** | **REQ** | **LENGTH** | **NOTES** |
| **ADDRESS\_DATA**  **(Defined as table to hold list of address results)** | | | | | | **Address information** |
| TYPE | <TBC> | NUMBER |  | Yes |  |  |
| ID | <TBC> | STRING |  | Yes |  |  |
| UPRN | <TBC> | STRING |  |  |  |  |
| USRN | <TBC> | NUMBER |  | Yes |  |  |
| LOGICAL\_STATUS | <TBC> | STRING |  | Yes |  |  |
| LANGUAGE | <TBC> | STRING |  | Yes |  |  |
| CLASS+CODE | <TBC> | STRING |  | Yes |  |  |
| PARENT\_UPRN | <TBC> | NUMBER |  |  |  |  |
| COUNTRY | <TBC> | STRING |  | Yes |  |  |
| AUTHORITY | <TBC> | STRING |  |  |  |  |
| LONGITUDE | <TBC> | NUMBER |  | Yes |  |  |
| LATITUDE | <TBC> | NUMBER |  | Yes |  |  |
| EASRING | <TBC> | NUMBER |  | Yes |  |  |
| NORTHING | <TBC> | NUMBER |  | Yes |  |  |
| BUILDING\_DESC | <TBC> | STRING |  | No |  |  |
| FORMATTED\_ADDRESS | <TBC> | STRING |  | Yes |  |  |
| ORGANISATION | <TBC> | STRING |  | No |  |  |
| SEC\_NAME | <TBC> | STRING |  | No |  |  |
| SAO\_TEXT | <TBC> | STRING |  | No |  |  |
| SAO\_NUMS | <TBC> | STRING |  | No |  |  |
| PRI\_NAME | <TBC> | STRING |  | No |  |  |
| PAO\_TEXT | <TBC> | STRING |  | No |  |  |
| PAO\_NUMS | <TBC> | STRING |  | No |  |  |
| STREET | <TBC> | STRING |  | No |  |  |
| LOCALITY | <TBC> | STRING |  | No |  |  |
| TOWN | <TBC> | STRING |  | No |  |  |
| POST\_TOWN | <TBC> | STRING |  | No |  |  |
| POSTCODE | <TBC> | STRING |  | Yes |  |  |
| CROSSREF | <TBC> | STRING |  | No |  |  |
| **MPRN\_DATA**  **(Defined as table to hold list of MPRNs for address)** | | | | | | **MPRN information** |
| CONTACT\_FIRST\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| CONTACT\_INITIAL | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| CONTACT\_SURNAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| CONTACT\_TEL | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| CONTACT\_TITLE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_CAPACITY | <TBC> | DECIMAL | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_INDEX | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_INSTALLATION\_DATE | <TBC> | DATETIME | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_LOCATION | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_MAKE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_NUMBER | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_STATUS | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_TYPE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| METER\_YEAR | <TBC> | DATETIME | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| MPRN | <TBC> | DECIMAL | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| MPRN\_STATUS | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| MULTI\_MPRN\_COUNT | <TBC> | DECIMAL | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| MULTI\_MPRN\_IND | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| MULTI\_MPRN\_LIST | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| PEMS\_INDICATOR | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SHIPPER\_ID | <TBC> | DECIMAL | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SHIPPER\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SHIPPER\_SHORT\_CODE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SUPPLIER\_ID | <TBC> | DECIMAL | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SUPPLIER\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SUPPLIER\_SHORT\_CODE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SUPPLIER\_TEL | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| XOSERVE\_IDENTIFIER | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| **PSR\_DATA** | | | | | | **PSR data** |
| VC\_CONTACT | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| VC\_DISABILITIES | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| VC\_INDICATOR | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| VC\_PASSWORD | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| VC\_PRIORITY | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| **IGT\_DATA** | | | | | | **IGT information** |
| DEVELOPMENT\_ID | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| IGT\_DEVELOPER\_NAMES | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| IGT\_DEVELOPMENT\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| IGT\_MPRN | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| IGT\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| IGT\_PGT\_ID | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| IGT\_PLOT\_ID | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| **SMART\_METER\_DATA** | | | | | | **Smart meter data** |
| CUSTOMER\_IDENTIFIED | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| ENGINEER\_IDENTIFIED | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| **POINTER\_DATA** | | | | | | **Pointer data** |
| ID | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| ORGANISATION\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SUB\_BUILDING\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| BUILDING\_NAME | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| BUILDING\_NUMBER | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| PRIMARY\_THORFARE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| ALT\_THORFARE\_NAME1 | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| SECONDARY\_THORFARE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| LOCALITY | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| TOWNLAND | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| TOWN | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| COUNTY | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| POSTCODE | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| BLPU | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| UNIQUE\_BUILDING\_ID | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| UPRN | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| USRN | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| LOCAL\_COUNCIL | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| X\_COR | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| Y\_COR | <TBC> | NUMBER | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| BUILDING\_STATUS | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |
| ADDRESS\_STATUS | <TBC> | STRING | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application | Based on dataset sent returned by existing IDOX application |

* **Error Handling**

Any communication errors, either sending the request to SAP Cloud Platform Integration or to the target AA-GMS application, should trigger the same error as per current BAU processing (ADDRESS SEARCH UNAVAILABLE).

Application errors should trigger the same error as per current BAU processing. The application errors are as follows:

* Address not found.
* Address search criteria too vague
* No address search criteria entered by user.
* **Synchronous Outbound Web Service**

As this integration relates to sending a single transaction per message, API will use to send the data outbound.

#### **Target Application IDOX**

#### **API Authentication**

User credentials are provided to connect to the target application (username and password). Additionally, this is token-based authentication and uses JWTs and the expiry of the token is configured to 1 day. The token will be passed in the JSON header Authorization field Bearer.

#### **Published API**

* **Search Address**

There are a number of REST based API endpoints relevant to this integration as follows:

* **GasPatternSearch.**
* **GasUPRN**
* **GasXref**

#### **Sample Request Message**

For reference, a sample request message.

<n0:Search\_Address\_Request\_Mapping xmlns:n0="urn:GDFO:SAPECC:AssetManagement" xmlns:prx="urn:sap.com:proxy:PR0:/1SAI/TAS979E7386873D737A9893:756" xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">

<API\_NAME>GasPatternSearch</API\_NAME>

<PATTERN>CV8 1EG</PATTERN>

<XOSERVE\_DATA>FALSE</XOSERVE\_DATA>

<PSR\_DATA>TRUE</PSR\_DATA>

<IGT\_DATA>FALSE</IGT\_DATA>

<SMART\_DATA>FALSE</SMART\_DATA>

<POINTER\_DATA>TRUE</POINTER\_DATA>

</n0:Search\_Address\_Request\_Mapping>

#### **Sample Response Message**

For reference, a sample response message.

"IGT": null,

"SMARTMETER": null,

"type": 28,

"id": "28\_53638191\_ENG",

"uprn": "10091556475",

"usrn": 0,

"logical\_status": 1,

"language": "ENG",

"classification\_code": "RD03",

"parent\_uprn": 10091556472,

"country": null,

"authority": null,

"longitude": -1.5790782,

"latitude": 52.3417464,

"easting": 428772,

"northing": 271600,

"full\_building\_desc": "3 NORMAND MEWS",

"formattedaddress": "3 NORMAND MEWS,BARROW ROAD,KENILWORTH,CV8 1EG",

"organisation": "",

"secondary\_name": "",

"sao\_text": null,

"sao\_nums": null,

"primary\_name": "3 NORMAND MEWS",

"pao\_text": "3 NORMAND MEWS",

"pao\_nums": null,

"street": "BARROW ROAD",

"locality": "",

"town": null,

"post\_town": "KENILWORTH",

"postcode": "CV8 1EG",

"crossref": null

},

{

"MPRN": null,

"PSR": [

{

"VC\_CONTACT": "Hankins",

"VC\_DISABILITIES": "1\*28RestrictHandMvt 09PartSight35Hearingimpairment 15PhysImpairmt 14Pensioner",

"VC\_INICATOR": "Y",

"VC\_PASSWORD": "",

"VC\_PRIORITY": "1"

}

],

**2. Testing Requirements**

**Business Test Conditions**

| ID | Condition | Expected results |
| --- | --- | --- |
| 1 | The user enters text to represent a single unique real address | The single unique address is returned from Idox and can be selected |
| 2 | The user enters text to represent multiple addresses being returned | IDOX searches for address that might match the text entered. IDOX returns a list of possible candidates. |
| 3 | The user selects the correct record (from the proposed candidates) | The address fields in SAP CX are populated with the address the user selected from IDOX. |
| 4 | Check that when a partial post code is entered in to SAP CX Interaction Screen Centre, IDOX will return any addresses | The address fields in SAP CX are populated with the address the user selected from IDOX. |
| 5 | Check that when a Road/Street name is entered in SAP CX. IDOX returns all Towns/Cities with High Streets | IDOX returns a search (list) to SAP CX with all Towns/Cities that contain the Road/Street name. |
| 6 | Enter street name only | All results for that street name should be returned. |
| 7 | Enter street name and city / town | All results for the combination of street name and city / town  should be returned |
| 8 | Enter criteria where no match will be found | message received saying ‘No match found’ and no address can  be selected |
| 9 | Try to select multiple addresses from results returned | should not be possible |
| 10 | Check that Xoserve data is correctly returned for an address search | Xoserve data correctly returned where a corresponding address match exits between AL2 and Xoserve. |
| 11 | Check that IGT data is correctly returned for an address that has a match with the IGT EM3 file | IGT data correctly returned. |
| 12 | Check that large very large volumes of data will not be returned for a search.  User enters High\*, potentially returning all address records beginning with ‘High’ | If the number of candidate addresses is too large (E.g. for ‘High\*’), LocatorHub returns a message as follows “Search is too vague; too many records match the search criteria” |
| 13 | Enter all standard search parameters for IDOX to check that the results returned via CX are consistent with those returned through IDOX application. E.g. B91 1\* should return all postcodes starting with B91 1 – all parameters for wildcards and fuzzy logic should be tested in accordance with standard IDOX functionality | Results returned as expected |
| 14 | Perform address search via MPRN number | Address should appear on CX screen. |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**3. Appendices**

NA

**4. Abbreviations/Glossary**

**Glossary of Terms**

The following acronyms and abbreviations are used in this document.

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| API-M | API Management, part of SAP BTP Integration Suite |
| BAU | Business As Usual |
| DHA | Double Handed Area |
| HP | High Pressure |
| HTTPS | Hypertext Transfer Protocol Secure.  It is the protocol where encrypted HTTP data is transferred over a secure connection |
| HUP | Hazardous Underground Plant |
| IDN | Independent Distribution Network |
| IGT | Independent Gas Transporters |
| JSON | JavaScript Object Notation |
| JWT | JSON Web Token |
| OCPM | Opus Cost and Penalty Manager |
| OOTB | Out of the Box |
| REST | Representational State Transfer |
| RDN | Retained Distribution Network |
| SAM | Scheduled Ancient Monument |
| SAP CX | SAP Front Office system |
| SAP S/4 HANA | SAP Back Office Production system |
| SCPI | SAP Cloud Platform Integration, part of SAP BTP Integration Suite |
| SOLMAN | SAP Solution Manager |
| SSSI | Sites Of Special Scientific Interest |
| XML | Extensible Markup Language |