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Document History

Before you start, make sure you have the latest version of this document. You can find the latest version at the following location:

http://service.sap.com/mkt

The following table provides an overview of the most important document changes. If the information you are looking for is not described in this guide or if you find something described incorrectly, please send an email to mailto:saphybrismarketingfeedback@sap.com and we’ll update this guide.

Table 1: Document History

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<td>Initial version for SAP Hybris Marketing 1611 (1.2 SP04)</td>
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1 Business Content for SAP Hybris Marketing

The Business Content documentation provides information about the main business content objects that are used in the application.

The information is structured along the different parts of the application, for example, the business content providing data for the performance indicators as found on the Home workset. This allows for identifying the relevant objects, such as the SAP HANA calculation views, OData services, and queries.

For the details about specific objects, use the options as described in the section Dataflow Overview, where you can also find an overview for the different data flow structures used in SAP Hybris Marketing and brief explanations for the involved content objects.
2 Dataflow Overview

In SAP Hybris Marketing, the SAP HANA based dataflow involves the following objects:

- SAP HANA information models
- InfoProviders
- ABAP class for the fast read access using ABAP Database Connectivity (ADBC)
- BEx Queries
- OData services

The above objects are used to enable and to structure the flow of the business data spanning from the database to the consumer on the application-UI.

Data Flow

In SAP Hybris Marketing two different dataflow structures are utilized:

- Analytical data flow.
- Transactional data flow.

Analytical Data Flow

The dataflow for the analytic accesses to business data is structured as follows:

- SAP HANA information models provide predefined business data models based on the replicated database tables from the source system(s), such as SAP ERP or SAP Customer Relationship Management (SAP CRM).
- Transient InfoProviders in the back end of the system enable access to the business data as modeled in the SAP HANA views.
- Easy queries reference the business data provided by the InfoProviders. In addition, the easy queries allow for an automatic generation of the relevant OData services. Typically, there is one OData service per query.
- OData services are used to expose the business data to the consumer of the data, such as the Relationship Analysis subworkset.
  The function of the OData services in the dataflow can be compared to those of application programming interfaces (API) or Remote Function Call (RFC) components.

Transactional Dataflow

The transactional dataflow serves for the read access, as the analytical dataflow does, and for the write access, for example, when a target group is created. The transactional dataflow with read access is structured as follows:

- SAP HANA information models provide the data as for the transactional data flow. However, for the transactional dataflow also the locally stored business data is addressed through the models. For example, the target groups or initiatives created in the application.
- An ABAP class enables the fast read access to the data provided by the SAP HANA information models. ADBC is used for the fast read access to the data basis.
- OData services are used to expose the business data, as provided by the fast read access.
The transactional dataflow with write access for the locally created data is structured as follows:

- From the application, the write access addresses the according OData service, for example the service for the target group.
- From the OData service, the write access references the according business object in the Business Object Processing Framework (BOPF), for example, the target group business object
- From the BOPF, SQL procedures are addressed that actually write the (local) data into the database tables.

**Data Flow**

The following schematic shows the different dataflow structures as described above.

![Data Flow Schemes](image)

**Finding Details About Content Objects**

You can find the main content objects that are relevant for a specific part of the application in the according section of the business content documentation.

**OData Services**

For details about the OData services, use transaction *Activate and Maintain Services* (/iwfnd/maint_service). See the *External Service Name(s)* for information about the Easy Query from where a specific OData service was generated.

**Easy Queries**

For the details about a specific query definition, utilize the program *Query Definition* (RSRQ_QUERYDEFINITION). You can also use the BEx Query Designer for the details about a specific query. In the query properties, you can find the hash value identifying the transient InfoProvider on which the query is based.

In addition, you can use the *Easy Query Management* (transaction EQMANAGER) to check whether an easy query is correctly generated.

**Transient InfoProvider**
For details about a specific transient InfoProvider use transaction \textit{Display TransientProvider Preview for Operational Data Provider (RSRTS\_ODP\_DIS)}. For the \textit{ODP Context}, select \textit{Search and Operational Analytics}. For the \textit{ODP Name} enter the hash value as generated by the SAP HANA information model.

\textbf{BOPF Business Objects}

For an overview about all BOPF objects that are relevant for the transactional dataflow of the application, see the \textit{SAP Business Objects} in the \textit{Business Objects Builder} (transaction \textit{BOB}).

\textbf{SAP HANA Information Models}

For detailed information about a specific SAP HANA information model, use the \textit{Auto Documentation} function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at \url{http://help.sap.com/}.
3 Key Performance Indicators

The following queries focus on the requirements of business analytics used in the key performance indicator (KPI) tile report groups (Advice and Alerts and Outliers) available in Customizing for SAP hybris Marketing under General Settings » Tiles in the Home Workset » Set up KPI Tiles. They are provided with the respective OData services, which allow for direct reporting. Note that the OData services are listed with the External Service Name.

Marketing Executive Dashboard

SAP Hybris Marketing offers the following KPI tiles for the measurement of marketing effectiveness:

- **Marketing-Generated Revenue in EUR**
  The following content objects provide the business data:
  - Query: CUAN_CMO_REVENUE
  - InfoProvider: 2HLABT2PN1I25AUT9NW32RXGML0
  - SAP HANA information model: sap.hana-app.cuan.mkteff/CA_CMO_REVENUE

- **Marketing-Generated Revenue of Top 3 Countries in EUR**
  The following content objects provide the business data:
  - Query: CUAN_CMO_REVENUE_TOP3_COUNTRY
  - InfoProvider: 2HSYV4T2FSN56I7VHCX8KCK065N
  - SAP HANA information model: sap.hana-app.cuan.mkteff/CA_CMO_REVENUE_TOP_COUNTRIES

- **Marketing-Generated Leads**
  The following content objects provide the business data:
  - Query: CUAN_CMO_COUNTER_LEAD
  - InfoProvider: 2HSXTKB9SSENGDNWZKAD1KK1670
  - SAP HANA information model: sap.hana-app.cuan.mkteff/CA_CMO_LEADS

- **Marketing-Generated Sales Pipeline in EUR**
  The following content objects provide the business data:
  - Query: CUAN_CMO_EXPOPP_REVENUE
  - InfoProvider: 2HNDRN126TCA7HRAUUWVY8I2F7
  - SAP HANA information model: sap.hana-app.cuan.mkteff/CA_CMO_OPPORTUNITIES

- **Marketing-Generated Opportunities**
  The following content objects provide the business data:
  - Query: CUAN_CMO_COUNTER_OPP
  - InfoProvider: 2HNDRN126TCA7HRAUUWVY8I2F7
  - SAP HANA information model: sap.hana-app.cuan.mkteff/CA_CMO_OPPORTUNITIES
Business Content Objects for Advice and Alerts

- **Top Cross-Selling Recommendations** (CUAN_TOP_REC_GLBL)
  The query calculates top recommendations and returns recommended products per customer.
  - OData service: CUAN_ANA_TRG_SRV
  - InfoProvider: Q381TWQULEY8N65G4G3TO6G
  - SAP HANA information models: `sap.hana-app.cuan.ai/CA_AI_TOP_RECOMMENDATIONS_GLOBAL`

- **Unsatisfied Customers** (CUAN_UNSAT_CUST)
  The query provides customers who were not satisfied according to imported survey data.
  - OData service: CUAN_ANA_USC_SRV
  - InfoProvider: KUHPHFC043QOIB2ZSX4JBU
  - SAP HANA information models: `sap.hana-app.cuan.ai/CA_SLS_UNSATISFIED_CUSTOMERS`
  For more information, see the application help at [http://help.sap.com/mkt](http://help.sap.com/mkt)

- **Customers with High Lifetime Value** (CUAN_CUST_CLV)
  The query provides customers who have a customer lifetime value higher than 10,000 in the target currency (for example, euro).
  - OData service: CUAN_ANA_CLV_SRV
  - InfoProvider: GR51E6IC3H0584JXVN073E
  - SAP HANA information models: `sap.hana-app.cuan.ai/CA_AI_CUSTOMER_HIGH_CLV`

- **Customers with Critical Churn Rate** (CUAN_CUST_CCR)
  The query provides customers who have a churn rate higher than 0.5.
  - OData service: CUAN_ANA_CCR_SRV
  - InfoProvider: UAEIMN7JN947QNH154KE9F7NW
  - SAP HANA information models: `sap.hana-app.cuan.ai/CA_AI_CUSTOMER_CCR`

Business Content Objects for Outliers

- **Customers with Pocket Margin Increase** (CUANPMOUTLH01_Q001_V01)
  The query returns the customers in their sales organization with a significant increase in pocket margin percentage of the current four weeks, in comparison to the pocket margin percentage of the previous four weeks. Outliers are customers with a variance of 10% or more.
  - OData service: CUANPMOUTLH01_Q001_EQ_SRV
  - InfoProvider: KLM0IBN62GMAP552HRUTAKVPV
  - SAP HANA information models: `sap.hana-app.cuan.crpm/CA_CRPM_PM_OUTLIER_4_WEEKS_POS`

- **Customers with Gross Margin Increase** (CUANPMOUTLSMD_Q001_V01)
  The query returns the customers in their sales organization with a significant increase in gross margin percentage of the current four weeks, in comparison to the gross margin percentage of the previous four weeks. Outliers are customers with a variance of 10% or more.
  - OData service: CUANPMOUTLSM1
  - InfoProvider: IAGDRJT5WY8YCFWOP51GX1QUG
SAP HANA information models: sap.hana-app.cuan.crpm/CA_CRPM_PM_OUTLIER_4_WEEKS_P

- **Customers with Pocket Margin Decrease** (CUANPMOUTLH02_Q001_V01)
The query returns the customers in their sales organization with a significant decrease in pocket margin percentage of the current four weeks, in comparison to the pocket margin percentage of the previous four weeks. Outliers are customers with a variance of 10% or more.
  - OData service: CUANPMOUTLH02_Q001_EQ_SRV
  - InfoProvider: IJ5QGI9S88BNC3JPSRTG6Q0U
  - SAP HANA information models: sap.hana-app.cuan.crpm/CA_CRPM_PM_OUTLIER_4_WEEKS_NEG

- **Customers with Gross Margin Decrease** (CUANPMOUTLSM1_Q001_V01)
The query returns the customers in their sales organization with a significant decrease in gross margin percentage of the current four weeks, in comparison to the gross margin percentage of the previous four weeks. Outliers are customers with a variance of 10% or more.
  - OData service: CUANPMOUTLMSMD
  - InfoProvider: TRBCYKZ184YNKGJRMAKGG
  - SAP HANA information models: sap.hana-app.cuan.crpm/CA_CRPM_PM_OUTLIER_4_WEEKS_N

- **Product Groups with Revenue Increase** (CUANREVOUTH01_Q001_V01)
The query returns the product groups in the corresponding sales organization with a significant increase in revenue of the current four weeks, in comparison to the revenue of the previous four weeks. Outliers are product groups with a variance of 10% or more.
  - OData service: CUANREVOUTH01_Q001_EQ_SRV
  - InfoProvider: U1D15001TP6C87PT01BGEE
  - SAP HANA information models: sap.hana-app.cuan.crpm/CA_CRPM_REV_OUTL_4_WEEKS_POS

- **Products with Revenue Increase** (CUANREVOUTSMD_Q001_V01)
The query returns the products in the corresponding sales organization with a significant increase in revenue of the current four weeks, in comparison to the revenue of the previous four weeks. Outliers are products with a variance of 10% or more.
  - OData service: CUANREVOUTSMD1
  - InfoProvider: GD38CHS0Z130T2QUF54HT
  - SAP HANA information models: sap.hana-app.cuan.crpm/CA_CRPM_REV_OUTL_4_WEEKS_P

- **Product Groups with Revenue Decrease** (CUANREVOUTH02_Q001_V01)
The query returns the product groups in the corresponding sales organization with a significant decrease in revenue of the current four weeks, in comparison to the revenue of the previous four weeks. Outliers are product groups with a variance of 10% or more.
  - OData service: CUANREVOUTH02_Q001_EQ_SRV
  - InfoProvider: LON2ID8GDIN68ASZUKXS50FOP
  - SAP HANA information models: sap.hana-app.cuan.crpm/CA_CRPM_REV_OUTL_4_WEEKS_NEG

- **Products with Revenue Decrease** (CUANREVOUTSMD1_Q001_V01)
The query returns the products in the corresponding sales organization with a significant decrease in revenue of the current four weeks, in comparison to the revenue of the previous four weeks. Outliers are products with a variance of 10% or more.
Business Content Objects for Marketing Data Management

The following query focuses on the requirements of business analytics used in the contact performance indicator of the Home workset in SAP hybris Marketing. This performance indicator part of the Marketing Data Management solution.

- **Contacts** *(CUAN_CONTACT_COUNT)*
  The query provides the number of contacts with a valid validation status.
  - InfoProvider: LU9FZ0X6BK09GIIBTJC4F179A
  - SAP HANA information models: sap.hana-app.cuan.contact/AN_CONTACT_COUNT

Data Flow

For detailed information about a specific SAP HANA information model, use the *Auto Documentation* function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at [http://help.sap.com](http://help.sap.com).

Only the authorization object for sales organization is available. If you want to use a different characteristic, for example, sales group, you need to use the existing authorization object, query, OData service, and SAP HANA information model as a basis to create your own objects.
4 Marketing Effectiveness

The Marketing Executive Dashboard enables marketing executives to review the success of marketing investments. It is comprised of the most important Key Performance Indicators (KPIs) for marketing effectiveness.

The following KPIs provide the SAP HANA information models `sap.hana-app.cuan.mkteff.ext/CA_D_CMO_KPI_VALUES` and `CA_D_CMO_KPI_VALUES_OVER_TIME`:

- Brand Awareness
- Market Share
- Net Promoter Score
- Leads
- Opportunities
- Sales Forecast
- Revenue
- Return on Marketing Investment
- Sales Pipeline
- Converted Pipeline
- Pipeline Acceleration

The following KPIs provide other SAP HANA information models:

- Active Contacts
  The following content objects provide the business data:
  - SAP HANA information model: `sap.hana-app.cuan.mkteff.XSAPP.v/CA_CE_IC_CONTACT_ANALYSIS`

- Sentiment Media Mix
  The following content objects provide the business data:
  - SAP HANA information model: `sap.hana-app.cuan.mkteff.XSAPP.v/CA_SE_INTERACTION_ANALYSIS`

- Web Visits
  The following content objects provide the business data:
  - SAP HANA information model: `sap.hana-app.cuan.mkteff.ext/AN_CMO_WEB_VISITS`

- Web Downloads
  The following content objects provide the business data:
  - SAP HANA information model: `sap.hana-app.cuan.mkteff.ext/AN_CMO_WEBDOWNLOADS`

- Planned Budget, Planned and Actual Spend
  The following content objects provide the business data:
  - SAP HANA information model: `sap.hana-app.cuan.pgm.v.analytic.CA_MKT_PLANNED_BUDGET_AND_COSTS_TEXT`

You must assign the `sap.hana-app.cuan.pgm.roles::MarketingPlanningReporting` role to users so that they can access the data for the KPIs.
5 Margin Decomposition

The following queries focus on specific analytic requirements. They are provided with the respective OData services, which allow for direct reporting. Note that the OData services are listed with the External Service Name.

Business Content Objects

- **Margin Decomposition (CUANFMDH01_Q001_EQ)**
  The query is used in Account details, in the Sales Analysis subworkset. It contains the key figures: Accrued Discounts; Amount; Cost of Goods Sold; Direct Costs; Gross Margin; Gross Revenue; Invoice Discounts; Invoices; Number of Customers; Number of Products; Pocket Margin; Revenue; Surcharges
  - OData service: CUANFMDH01_Q001_EQ_SRV
  - InfoProvider: 2HFB282HV60FAE31BW6W9C9B54
  - SAP HANA information model: sap.hana-app.cuan.common/CA_CVI_FMD

- **Margin Decomposition with Target Group (CUANFMDTGH01_Q001_EQ)**
  The query is used in the Margin Decomposition subworkset, as it allows you to filter target groups. It contains the key figures: Accrued Discounts; Cost of Goods Sold; Direct Costs; Gross Margin; Gross Revenue; Invoice Discounts; Invoices; Pocket Margin; Revenue; Surcharges
  - OData service: CUANFMDTGH01_Q001_EQ_SRV
  - InfoProvider: 2HFG2S4T54RW1TWVDQ4XNK7E76H
  - SAP HANA information model: sap.hana-app.cuan.crpm / CA_CVI_FMD_WITH_TG

For more information, see the application help at http://help.sap.com/mkt ➤ Application Help (choose your language) ➤ SAP hybris Marketing Worksets ➤ Insight ➤ Margin Decomposition.

Data Flow

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at http://help.sap.com ➤ SAP In-Memory Computing ➤ SAP HANA Appliance ➤ Development Information ➤ SAP HANA Developer Guide.
6 Joiners and Leavers of Target Groups

The Fast Climbers and Descending Customers of Target Group query (CUAN_TG_JOINER_LEAVER_ANALYSIS) allows you to analyze snapshots which have been taken for dynamic target groups over a period of time. This enables you to analyze how the target group attributes, such as number of members, have changed over a period of time, that is, how many customers have joined the target group, and how many have left. It is provided with the respective OData service, which allows for direct reporting. Note that the OData service is listed with the External Service Name.

This query is used in the Target Groups workset:

- OData service: CUAN_TG_JOINER_LEAVER_ANALYSIS
- InfoProvider: 2HQEHT4WAWI8MH89UJIMBFL1W7
- SAP HANA Information Models: sap.hana-app.cuan.common/CA_JOINER_LEAVER_ANALYSIS

Data Flow

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at http://help.sap.com
7 Analysis for Campaigns

Find out more about the available key performance indicators (KPI) and OData services for campaigns.

The business data used for the general information of a campaign is provided by the following OData services and KPIs.

These measures and dimensions are supporting you during the analysis of your campaigns to find out whether they are efficient or not. With them you can, for example, find out whether how many contacts are reached with an email campaign and how many contacts have clicked a specific link in the email.

**ODATA Service CUAN_CAMPAIGN_BTD_SUCCESS_RPTG**

SAP HANA information model: sap.hana-app.cuan.initiative.internal/CA_C_CAMPAIGN_BTD_FLOW

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Business Content 1702
Analysis for Campaigns
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**ODATA Service CUAN_CAMPAIGN_METRICS**

SAP HANA information model: sap.hana-app.cuan.initiative.internal/CA_C_CAMPAIGN_METRICS

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<td>Number of Interactions (Formatted)</td>
<td>--</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfMissingMarketingPermissons</td>
<td>Number of Missing Marketing Permissions</td>
<td>Number of emails that are not sent out, because the recipient has not given the consent to get contacted by email.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfMissingMarketingPermissons_F</td>
<td>Number of Missing Marketing Permissions</td>
<td>Number of recipients where the email address or cell phone number is missing in the contact data.</td>
</tr>
<tr>
<td>Type</td>
<td>Name</td>
<td>Label</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfMissingCommunicationData_F</td>
<td>Number of Missing Communication Data (Formatted)</td>
<td>Number of attempted contactings for each contact and for each attempt the counter increases by 1 counter. Counts for each contact the attempted contactings. The limits are taken into account maintained in the Communication Categories and Limits app and in the Global Limits Rules app.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfCommunicationLimitsReached</td>
<td>Number of Communication Limits Reached</td>
<td>Number of attempted contactings for each contact and for each attempt the counter increases by 1 counter. Counts for each contact the attempted contactings. The limits are taken into account maintained in the Communication Categories and Limits app and in the Global Limits Rules app.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfSentMessages</td>
<td>Number of Sent Messages</td>
<td>Number of members in the used target group.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfSentMessages_F</td>
<td>Number of Sent Messages (Formatted)</td>
<td>Number of members in the used target group.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfDeliveredMessages</td>
<td>Number of Delivered Messages</td>
<td>Number of recipients where an email has been sent successfully to the email provider minus the bounces.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfDeliveredMessages_F</td>
<td>Number of Delivered Messages (Formatted)</td>
<td>Number of recipients where an email has been sent successfully to the email provider minus the bounces.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfBounces</td>
<td>Number of Bounces</td>
<td>Number of recipients where a hard or soft bounce came back after the email has been sent out.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfBounces_F</td>
<td>Number of Bounces (Formatted)</td>
<td>Number of recipients where a hard or soft bounce came back after the email has been sent out.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfHardBounces</td>
<td>Number of Hard Bounces</td>
<td>Number of emails that can’t be delivered because the email address was wrong.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfHardBounces_F</td>
<td>Number of Hard Bounces (Formatted)</td>
<td>Number of emails that can’t be delivered because the email address was wrong.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfSoftBounces</td>
<td>Number of Soft Bounces</td>
<td>Number of recipients where a soft bounce came back, because, for example, the receiving server was unavailable or the mail box was full.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfSoftBounces_F</td>
<td>Number of Soft Bounces (Formatted)</td>
<td>Number of recipients where a soft bounce came back, because, for example, the receiving server was unavailable or the mail box was full.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfUnopenedMessages</td>
<td>Number of Unopened Messages</td>
<td>Number of unopened emails. This is determined by a pixel-file in the email. In case the email has been opened this pixel will be loaded and the server registers the opening.</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure</td>
<td>NoOfUnopenedMessages_F</td>
<td>Number of Unopened Messages (Formatted)</td>
<td>With this indicator you can see for each contacted person whether the email has been opened or not.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfOpenedMessages</td>
<td>Number of Opened Messages</td>
<td>Number of the opened emails that is counted by the loaded pixel-files.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfOpenedMessages_F</td>
<td>Number of Opened Messages (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfTotalClicks</td>
<td>Number of Total Clicks</td>
<td>Number of all happen clicks including all multiple clicks.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfTotalClicks_F</td>
<td>Number of Total Clicks (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfUniqueClicks</td>
<td>Number of Unique Clicks</td>
<td>Number of recipients who clicked a link.</td>
</tr>
<tr>
<td>Measure</td>
<td>NoOfUniqueClicks_F</td>
<td>Number of Unique Clicks (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfBounces</td>
<td>Bounce Rate</td>
<td>Percentage of undelivered emails.</td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfBounces_F</td>
<td>Bounce Rate (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfUnopenedMessages</td>
<td>Rate of Unopened Messages</td>
<td>Percentage of unopened emails (number of contacts who got an email minus the unopened ones in percent)</td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfUnopenedMessages_F</td>
<td>Rate of Unopened Messages (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfOpenedMessages</td>
<td>Rate of Opened Messages</td>
<td>Percentage of opened emails. For more information, see above.</td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfOpenedMessages_F</td>
<td>Rate of Opened Messages (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfUniqueClicks</td>
<td>Unique Click Rate</td>
<td>Percentage of the unique clicks.</td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfUniqueClicks_F</td>
<td>Unique Click Rate (Formatted)</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfClicksToOpenedMessages</td>
<td>Click To Open Rate</td>
<td>Percentage of the recipients who opened an email and clicked a link.</td>
</tr>
<tr>
<td>Measure</td>
<td>RateOfClicksToOpenedMessages_F</td>
<td>Click To Open Rate (Formatted)</td>
<td></td>
</tr>
</tbody>
</table>
8 Segmentation

Data Source
The Segmentation includes a generic segmentation engine that can be used to segment any kind of objects. Typically, the data for the segmentation population is provided by SAP HANA information models. The following modeling hints and customizing steps therefore focus on SAP HANA based data sources.

The Segmentation is shipped with standard SAP HANA information models based on replicated data from SAP ERP and/or SAP Customer Relationship Management (CRM). The Segmentation is preconfigured for the use of these standard models as a segmentation data source. If you want to adapt or extend the data source, or to use different data sources, take care of the following activities:

- Provide the SAP HANA information models for a custom data source.
- Adapt the standard customizing for the Segmentation to enable the use of the custom data source in the segmentation.

Preview Types
You can create custom visualizations for the attribute preview in the Segmentation and assign the preview types in Customizing for SAP Hybris Marketing. For the details, see section Defining Additional Preview Types.

8.1 Providing a Custom Data Source for the Segmentation

Prerequisites
You have a database user with development authorization in the SAP HANA studio. Use the modeler perspective to access the standard SAP HANA information models that are delivered with Segmentation. For a summary of the standard SAP HANA information models, see Business Content at http://help.sap.com/mkt.

Note
The performance of the application depends on the performance of the SAP HANA information models and SQLscript procedures you provide. Familiarize yourself with the modeling guidelines to ensure that your information models and procedures are as performant as possible.

**Note**

Make sure you use the correct format when you indicate the path and the name of SAP HANA information models, or SQLscript procedures:

- Lower case for the path, for example, `sap.hana-app.cuan.cpred.datafoundation`
- Upper case for the name of the model, or procedure, for example, `CA_CPRED_CRM_DS_PROD_AFFIN`
- Separate the path from the name by a slash `/`.

**Procedure**

**Adapting Standard SAP HANA Information Models**

You can use copies of the standard SAP HANA information models that are shipped with SAP hybris Marketing for Segmentation and adapt them to your requirements. In the SAP HANA studio, locate the standard models and copy them to your custom package.

**Creating Custom SAP HANA Information Models**

As an alternative to the adaptation of copied standard models, you can create custom models and use it in Segmentation. Consider the following recommendations when creating custom models:

- Provide a proper description for each information model you create or change. The description is used as a title of the attribute grouping in the filter list of the Segmentation UI. In addition, consider the number of models you use for a set attributes since each model results in a separate attribute grouping. In the label column, provide descriptions for all fields to be displayed on the UI (with that description).
- Avoid to use mandatory variables, and mandatory input parameters.
- Use the same data type for key fields in all SAP HANA information models you assign (in Customizing) to a specific segmentation object.
- Consider the text joins that are required for fields with language dependent descriptions. In addition, complete the text mapping by renaming the label of the field description. For example, you have joined a table for the language dependent descriptions of `COUNTRY`. In the column `COUNTRY_ID`, rename the existing entry, such as `COUNTRY_TEXT` by `COUNTRY_ID.description`, and press Return.
- For analytic views or calculation views, make sure the model property **Multi Dimensional Reporting** is enabled. The setting is required for the provision of proper field descriptions in Segmentation. For the setting, the information model must have at least one key figure. If required, you can create a dummy key figure, make the setting, and delete the dummy key figure.
- For the client mapping, consider the following requirements:
  - The SAP HANA information models are defined as cross client.
  - The client for a particular schema, such as `SAP_CUAN_CRM` is retrieved as a derived input parameter from the client mapping table `CUANC_CLNTMAP`.
  - The client for the ABAP/SAP_CUAN schema is retrieved from the session context (`$$client$$`).
  - The data foundation for attribute views, analytic views, and graphical calculation views is filtered on the corresponding client.
8.2 Adapting the Standard Customizing for Segmentation

In the *Segmentation*, the data source is referenced by a segmentation profile. *Segmentation* is shipped with standard segmentation profiles. The customizing activities described below allow for defining custom segmentation profiles.

Proceed with the following steps to adapt the preconfigured *Segmentation* settings for the use of custom data sources:

1. In the system, choose **Customizing - Edit Project (transaction SPRO)** ➤ **SAP Reference IMG** ➤ **SAP hybris Marketing** ➤ **Segmentation**

   **Note**
   
   For detailed information about each customizing activity, see the help topics that are assigned to the activities. In addition, use the F1 help for information about the customizing details.

2. Choose the customizing activity **Define Aliases for SAP HANA Data Sources**. In this activity you provide an alias for each of your custom SAP HANA information model(s). In the following customizing activities, the aliases are used as a reference to the model(s) and thereby to the data source(s) for the Segmentation application. As for all other *Segmentation* customizing activities, choose **New Entries** to create an item. Enter an arbitrary alias. For the data source, enter the location and the name of the model. Use SAP HANA Studio to gather the package and the technical name from the model properties. Enter the package plus model name in the following format: `<package>/<name>`. For example, `sap.hana-app.cuan.cseg/AT_CSEG_ERP_CUST_EXT`.

3. Choose the customizing activity **Define Segmentation Objects**. With the segmentation objects you define in this activity you prepare for the assignment of data sources, which is done in the following customizing activity. Provide an arbitrary (technical) name and a business description for each segmentation object. When you set up segmentation objects, you can assign application related business logic by indicating a consumer class per segmentation object. See the help topic for more information about how to implement such business logic.

4. Choose the customizing activity **Assign SAP HANA Data Source to Segmentation Objects**. In this activity, you use data source alias(es) to assign data source(s) to segmentation object(s).

   **Note**
   
   You can assign multiple data sources (using the alias) to one segmentation object.

   In the customizing activity, click on the icon in the **attributes** column to see the list of attributes that are provided by the data source you have assigned to a segmentation object. For each attribute, a set of options is available. For the details, see the according F1 help. In addition, consider the following:
   ○ For the visibility settings check how an attribute is to be used in the application, as a characteristic, or as a key figure.

   If you use an attribute as a key figure:
   ○ Consider that key figure dimensions allow for restricting key figure values to certain characteristics.
     Hence, you are able to create a restricted key figure by means of dimensions.
   ○ Check the threshold and aggregation types that apply for the key figure.

   If you use an attribute as a characteristic,
Check whether it requires an additional semantic classification. Typically, date fields are affected, where the date format is missing (after data replication from the source system).

In the customizing activity, click on the icon in the input parameters column to see and edit the list of input parameter details. For the details, see the according F1 help.

Prerequisite: To enable the usage of input parameters when defining segmentation filters based on key figure attributes, define the input parameters in the SAP HANA information models (data source).

5. Choose the customizing activity Define Segmentation Object Key Fields. In this activity you define key fields that allow to identify a segmentation object. For example, you define the key field customer_number for the segmentation object ERP_customer. In the next customizing activity, you assign an attribute to the key field.

6. Choose the customizing activity Assign Segmentation Attributes to Object Key Fields. In this activity you assign a characteristic or key figure (attributes) to each segmentation object key field you have defined before. For example, assign the attribute KUNNR to the segmentation object key field customer_number.

Note

You can assign multiple attributes with the same business meaning but coming from different data sources. However, the attributes must share the same data type. For example, you can assign the attribute KUNNR and the attribute ERPCUTSNO (coming from different data sources) as they share the same data type NVARCHAR (10).

7. Choose the customizing activity Define Segmentation Profiles. In this activity, you determine combinations of data sources and segmentation objects. Each combination is represented by a segmentation profile. Each segmentation application references a segmentation profile, and thereby it accesses the data source you have defined. As a result, the segmentation profile determines the base population (population of the first segment) for a specific segmentation application.

Note that you can determine a default segmentation profile that is used when you start the segmentation application.

Note

You can assign multiple data sources and segmentation objects to one segmentation profile.

8.3 Disabling Segment Changes for which a Target Group has been Created

If you require additional logic for disabling segment changes, you can implement your own consumer class inherited from the standard consumer class as described in the extensibility guide under 7.2.3 (Adapting the Standard Customizing for Segmentation, step 3).

You can use the BAdI Disable Change/Remove of Segment Based on Assigned Target Group (BADI_CUAN_TG_DISABLE_SEG) in the enhancement spot CUAN_TARGET_GROUP to implement your own consumer class. For more information, see the BAdI documentation.
8.4 Defining Additional Preview Types

You can implement and integrate additional visualizations for the characteristics and segment preview in the segmentation UI.

There are standard preview types in the Segmentation, such as a pie chart for characteristics with a few values, a bar chart for characteristics with more values, and a map based visualization for the geographical characteristic Country. In addition, the standard delivery includes a histogram preview for key figures.

**Note**

In the Segmentation, the implementation of custom preview types is only supported for characteristics and segments, but not for key figures.

For more information about the standard preview types, see the Customizing under SAP hybris Marketing Segmentation Define Segmentation Preview Types.

You create a custom preview type implementing an SAPUI5 JavaScript view including a controller. For more information, see the Developer’s Guide at http://help.sap.com/nw-uiaddon Development Information.
Interface

See the following chart for an overview over the interaction between the core segmentation UI and the SAPUI5 JavaScript view (plug-in):

Figure 2: Interaction Sequence Core UI and Plug-in
When you create custom preview types based on SAPUI5 JavaScript you also need to implement a number of functions as explained in the following sections. There are functions in the plug-in that are called by the core UI of the segmentation, and there are functions in the core UI that can be called by the plug-in. For example, you request the data for the preview from the core UI calling the function `requestPreviewData()`.

**Functions Provided by the Plug-in**

In the custom preview type, you implement the following functions that are called by the segmentation core UI:

- **startPreview**
  This function is called when the user starts a preview.
  When implementing the function take care of the following:
  - Provide a busy indicator that does not block the UI during the data load for the preview.
  - Request the data for the preview, for example, by calling function `requestPreviewData()` for characteristics previews, or by calling your own data provider for segment previews.
  The function has one parameter (a JavaScript object) that provides the following properties:
  - Technical name of the attribute (`attName`)
  - Language dependent text of the attribute (`attNameText`)
  - Type of the attribute (`attType`), characteristic or keyFigure
  - Data type (`dataType`), object that has the properties `decimals`, `length`, `type`
  - ID of the preview visualization type as defined in customizing (`previewVis`)
  - ID of the segment (`segmentID`)
  - Language dependent description of the segmentation object (`segmentationObject`), for example, SAP ERP Customer
  - Default currency code (`defaultCurrencyCode`)
  - Array of input parameters filtered by the current dataSourceAlias (`aInputParams`). The objects of the array have the following properties:
    - dataSourceAlias
    - dataSourceAliasDescription
    - dataType
    - paramName
    - text
    - defaultValue
    - mandatory

- **receivePreviewData**
  Implement the function only when you call the function `requestPreviewData()`. The function has one parameter (a JavaScript object) that provides the following properties:
  - `attName`, for example, `COUNTRY`
  - `attNameText`, for example, `Country`
  - `dataComplete`, for example, `false`, which indicates that not all values from data base are part of the distribution array
  - `dataSourceAlias`, for example, `SAP_ERP_CUSTOMER`
  - `distribution`. The array contains the actual preview data. The objects of the array have the following properties:
    - `attValue` (dynamic type, usually string, or number)
- attValueText (string)
- attValueCount (number)
- searchIndex (string)

For example:

```
[{
    "attValue": "DE",
    "attValueText": "Germany",
    "attValueCount": 3713,
    "searchIndex": "DE Germany"
}, {
    "attValue": "US",
    "attValueText": "United States",
    "attValueCount": 3492,
    "searchIndex": "US United States"
}]
```

- limitCount, for example, 20. Sets the limit for the number of values returned from database
- offset, for example, 0. Enables paged access. The offset 0 refers to the first page. For example, with the limit count 20, and offset 0 you receive the entries 1-20. With the offset 3, and limit count 50, you receive the entries 51-200.
- previewVis, for example, SAP_CH_GEOMAP. Specifies the preview type name allowing to use the same view for slightly different visualizations, such as preselected chart types, by customizing one SAPUI5 JavaScript view with two different names.
- searchString, for example, "". Contains the search text that filters the values received from the back end.
- segmentID, for example, gseg_seg_lbl_0
- remainderCount, for example, 123. The cumulated count of hits for values that are not included in the distribution array when the count limit (limitCount) is exceeded.

If the function oPreviewData is set with an empty distribution array, it indicates that no data corresponds to the search criteria.

- setError

  We recommend to implement the function setError(sMessage) that is called when a preview request leads to an error. Make sure that you stop the busy indicator in case of error.

## Functions Provided by the Core UI

In the plug-in implementation for your custom preview type, you can use the following functions (provided by the segmentation core UI in the ViewData of your plug-in):

- requestPreviewData()

  Use this function to start the data request for the characteristics preview with the following parameters:
  - sSearchString. The search string for the filtering of the preview data. Use "" for no filtering.
  - iLimitCount. Specifies the maximum number of values returned from the back end.

- requestAddSegment()

  Use this function to trigger the creation of a segment. The segment is created based on the attribute the user has selected. Use the following parameters to call the function:
  - aFilterFromPreview. Set the array using one of the following alternatives:
    - With the selected attribute values in a flat array style, for example, ["DE", "CA", "US"]
    - With objects that have the properties valueLow and valueHigh. Use the properties as filter-ranges with the select operator between. For example, [{"valueLow": "0", "valueHigh": "10"}, {"valueLow": "20", "valueHigh": "50"}]. Per range, you can additionally specify a mode for the interval (intervalMode). By default, the interval mode is ]]. Other modes are: [], [ ], or [ ].
  - iMode. This parameter specifies the segmentation mode as follows:
    - 0 (keep)
- 1 (separate)
- 2 (exclude)
- 3 (distribute)
  ○ aInputParams. This optional array of input parameters (JavaScript objects) must have the following properties:
    - dataSourceAlias
    - paramName
    - value

- getSegmentTreeJSON()
  Use this function to retrieve the JSON representation of the complete segmentation model tree.

- applicationID
  Use this property to retrieve the application ID of the segmentation model tree (as a string), for example, SAP_AD

- profileID
  Use this property to retrieve the profile ID of the segmentation model tree (as a string), for example, SAP_ERP_CUSTOM

- segModelGUID
  Use this property to retrieve the GUID of the segmentation model tree (as a string).

8.5 Custom Fields in Segmentation

Business Context

You want to assign a custom field to segmentation.

Prerequisites

- You have defined the custom fields based on your requirements.
- You are assigned the following catalog roles:
  ○ SAP_BCR_CA_IC_LND
  ○ SAP_BCR_CORE_EXT
  ○ SAP_BCR_CORE_SL_EXP
  ○ SAP_BCR_CEC_MKT_SEG_PC
Settings

The following graphic illustrates the flow to create custom fields and use them in segmentation:

Follow the steps below to assign a custom field to segmentation:

1. Navigate to the **Add Custom Fields to Segmentation** app.
2. To assign custom fields of a business context to a segmentation profile, choose + *(Add)*.
3. Select the required business context from the dropdown.
4. Select the segmentation object to which the custom fields are to be assigned.
5. In the **Custom Fields** section, check the fields and click **Set Visible** or **Set Invisible** to make them visible or invisible respectively.
6. Choose **Save**.
7. Export the segmentation assignment from the quality system to the production system.
8. Deploy the solution if you are in the Realize Phase or release your change if you are in the Change Phase to transport the assignment to the production system.

**Note**

After releasing your solution, wait until the transport reaches the production system.

9. Import the custom fields into your production system.
10. Use in segmentation.
8.6 Setting up the Geospatial Segmentation and Map Preview

This function allows you to view the distribution of geolocations on a map, for example, the distribution of customers in a region. You can then create new segments based on areas defined in the map.

Prerequisites:

Geocoordinates

To use geospatial segmentation, you need data in the form of geographic coordinates stored in your system. Addresses, for example, must first be converted to coordinates and then uploaded to the system. You can segment on different kinds of coordinates, such as the coordinates of interactions or shops in a certain area.

Access to Map Provider


To use the geospatial segmentation option with the map visualization, your browser requires access to the internet domain “here.com”. The domain provides the map data that is used in the geospatial segmentation option. Check, whether the users in question have access to this domain and consider the implications of communicating with servers outside your firewall.

Enabling a Geolocation Attribute

If you use a pair of numeric attributes to define the longitude and the latitude, set the Semantic Type of the longitude attribute in Segmentation Configuration. Segmentation Objects and Attributes Assigned Data Sources Geolocation Attribute Semantics.

Use one of the following options:

- To process geolocations with coordinate (0,0) as actual geo points, set the longitude attribute to Geo Point.
- To omit geolocations with coordinate (0,0) as initial values, set the longitude attribute to Geo Point without (0,0).

To complete the setting, define the latitude attribute as dependent on the longitude attribute. To do this, assign the latitude attribute under Semantics Name of Dependent Attribute to the longitude attribute.

Note

For attributes of type ST_POINT or ST_GEOMETRY, the semantic type is automatically set.
Preview Type Assignment

By default, the Geospatial Map preview (SAP_CH_GEOSPATIAL_MAP) is assigned to the Geolocation attribute of type GEO_POINT. Note that you can only assign attributes of this type to the Geospatial Map preview, and vice versa.

Using a Custom Attribute

If you want to use the geospatial segmentation based on custom business data, make sure that your attribute universe provides the required geolocation information.

Use one of the following two options to model the according SAP HANA database tables, and SAP HANA information models:

- Define a column of (SQL data) type ST_POINT, or ST_GEOMETRY in your SAP HANA database table. Expose the column to your SAP HANA information model.
- In your SAP HANA database table, provide the longitude and latitude in two different numerical columns as a geolocation tuple. Expose the columns to your SAP HANA information model.

In addition to the modeling, configure the semantic type of the geolocation attribute in Segmentation Configuration.

8.7 Restricting Data and User Authorization for Segmentation Models

Use Case

For marketing purposes, you want a segmentation model to only show customer data connected to a region A. Also, you want to make this segmentation model available only to marketers working in that same region A.

You can achieve this by carrying out two steps:

Restricting Data

You use segmentation profile filters to restrict the data available in the segmentation model.

1. Go to Customizing › Segmentation › Define Segmentation Profiles and click the icon in the filter column for the segmentation profile you want to filter.
2. In the table, enter the name of the filter attribute and specify the value.
   In the example, the filter attribute would be Region with the specified value A.

Note

For detailed information about the customizing activity Define Segmentation Profiles, see the assigned help topic. In addition, use the F1 help for information about the customizing details.
Restricting User Authorization

You use business roles to restrict user access (at the start of the generic segmentation application) to the segmentation model.

1. Go to Role Maintenance (transaction PFCG).
2. Assign a role to all the users you want to have restricted access to segmentation models only.
   In the use case, these are the marketers in region A.
3. Now make custom entries for the role.
   For the standard authorization object GSEG_START, enter the ID of the segmentation profile (GSEG_PROF) for that you want to grant the users access.
   In the use case, this is the segmentation profile that has its available data restricted to region A.

**Note**

For more information on role maintenance, see the application documentation.

For more information on business roles and authorization objects, see the Security Guide for SAP Hybris Marketing on the SAP Help Portal at help.sap.com/mkt.

Alternatively, you can use the BAdI Segmentation Profile Authorization Check to restrict user access.

Go to Customizing > Segmentation > Business Add-Ins.

For detailed information, see the BAdI documentation.
9 Predictive Scenarios

The following business content is available for predictive scenarios:

9.1 Overview of Predictive Demo Scenarios

See the following overview for the implementation methods, and segmentation profiles you can use with the different scenarios.

Table 4:

<table>
<thead>
<tr>
<th>Predictive Scenarios</th>
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<td>Demo Buying Propensity Banking (SP03)</td>
<td>• SAP InfiniteInsight (SP03)</td>
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<td>Calculated using the decision tree algorithm of PAL C4.5</td>
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<td>As of SP05, the profile is shipped with demo business data (7,628 customers).</td>
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<td>As of SP05, the Decision Tree facet can be used to visualize the results.</td>
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<td>Demo Banking HRF Score (SP05)</td>
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<td>The demo scenario includes an according HRF vocabulary.</td>
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## Predictive Scenarios

<table>
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| **Demo Insurance** (SP05) | • SAP InfiniteInsight (SP03)  
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• Logistic Regression (PAL) (SP01) | **Demo Insurance** (SP05)  
Segmentation attribute: *Cancellation Propensity* |
| **Buying Propensity** (SP01) | **Logistic Regression (PAL)** (SP01) | **CRM Business Partner: Buying Propensity** (SP01)  
Segmentation attribute: *Buying Propensity* |

### Note
For more information about how to create predictive models using the scenario as a template, see SAP Note 2070725 and 2140574.

### 9.2 Buying Propensity Scenario

The business data used for the predictive scenario *Buying Propensity* is provided by a set of standard SAP HANA information models, and SQLscript procedures.

#### Predictive Data Source

The predictive data source is addressed by the script-based calculation view `sap.hana-app.cuan.cpred.datafoundation.CA_CPRED_CRM_DS_PROD_AFFIN_2`.

The calculation view provides the business data for the training set. Predictive models are created based on a training set. It contains the data that describes the actual customer behavior, which is used to detect patterns and trends that allow to predict future behavior.

#### Training of Predictive Models

The cross-validation and training of predictive models is based on a set of SQLscript procedures:

- `sap.hana-app.cuan.cpred.internal.PR_CPRED_PROD_AFFINITY_LOGR_TRAIN`  
  This SQLscript procedure serves as a generic shell, and calls the SQLScript procedure `PR_CPRED_PROD_AFFINITY_LOGR_TRAIN_SUB`.
- `sap.hana-app.cuan.cpred.internal.PR_CPRED_PROD_AFFINITY_LOGR_TRAIN_SUB`  
  This SQLscript procedure supports the cross-validation, and the training of predictive models:
    - It refers to the calculation view `CA_CPRED_CRM_DS_PROD_AFFIN_2`, which provides the business data for the training set.
It contains the list of fields as provided by the data source.

- sap.hana-app.cuan.cppred.internal.PR_CPRED_PROD_AFFINITY_LOGR_TRAIN_L
  This SQLscript procedure is used to call the SAP HANA Predictive Analysis Library (PAL), which provides the statistical method(s) to be used for the predictive calculation.

- sap.hana-app.cuan.cppred.internal.PR_CPRED_PROD_AFFINITY_LOGR_TRAIN_WEIGHTS
  This SQLscript procedure is used to calculate the weights of the predictor variables.

### Execution of Predictive Models

The model execution is based on two calculation views, and two SQLscript procedures:

- sap.hana-app.cuan.cppred.internal.CA_CPRED_PROD_AFFINITY_SCR2
  This script-based calculation view is designed to hold the customer scoring. The calculation view calls the SQLScript procedure PR_CPRED_PROD_AFFINITY_LOGR_EXEC2, which calculates the scoring.

- sap.hana-app.cuan.cppred.CA_CPRED_PROD_AFFINITY
  This graphical calculation view serves as a generic shell to provide the results of the model execution to the consuming application. It refers to the script-based calculation view CA_CPRED_PROD_AFFINITY_SCR2, which holds the scoring results.

- sap.hana-app.cuan.cppred.internal.PR_CPRED_PROD_AFFINITY_LOGR_EXEC2
  This SQLscript procedure is used to calculate the scoring of customers.

- sap.hana-app.cuan.cppred.internal.PR_CPRED_PROD_AFFINITY_LOGR_EXEC_L
  This SQLscript procedure is used to call the PAL.

### Data Flow

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at [http://help.sap.com](http://help.sap.com)

9.3 **Demo Scenario CRM Loyalty Score**

The heuristic demo scenario CRM loyalty score is based on SAP HANA rules framework (HRF). The demo scenario, which is delivered with SAP Hybris Marketing, includes a HRF vocabulary that enables you to create predictive models based on the business data defined for the demo scenario. You can use the demo vocabulary as a template to create custom vocabularies.

Note that you create a HRF vocabulary as SAP HANA content in SAP HANA studio.

In addition to the HRF vocabulary, a set of calculation views is required to enable applications, such as Segmentation to access the HRF based scoring results.
Prerequisites

You have installed the SAP HANA rules framework (HRF).

For more information about how to install HRF, see the section Optional Configuration Settings for SAP Hybris Marketing Scoring Based on HANA Rules Framework (HRF) in the Installation Guide for SAP Hybris Marketing at http://help.sap.com/mkt Installation and Upgrade Information.

Business Content

The following business content is available as SAP HANA content for the demo scenario:

- Demo scenario vocabulary: system-local.sap.hana-app.cuan.cpred.hrf::SAP_Demo_CRM_Loyalty.
- Demo calculation views (enabling applications to access the scoring results):
  - system-local.sap.hana-app.cuan.cpred.demo.loyalty.internal/CA_CPRED_LOYALTY_CRM_SCR
  - system-local.sap.hana-app.cuan.cpred.demo.loyalty/CA_CPRED_LOYALTY_CRM

More Information

- For more information about how to activate the demo scenario CRM loyalty score, and how to define a predictive model fit based on the according HRF vocabulary, see SAP Note 2042181, and the Application Help for SAP Hybris Marketing on the Help Portal at http://help.sap.com/mkt SAP Hybris Marketing Applications Predictive Studio.
- For more information about how to set up a heuristic predictive scenario based on HRF, see the Extensibility Guide for SAP Hybris Marketing on the Help Portal at http://help.sap.com/mkt under Configuration and Deployment Information.

9.4 Channel Affinity (outdated)

⚠️ Caution

This section is outdated.

Please note that you can now use Score Builder to create a score for channel affinity. In Score Builder you can create scores without having to create a predictive model first. For more information on this simplified technique, see the section Score Builder in the application help.
For your convenience, SAP delivers a channel affinity score which you can use as a reference when creating your own. For more information on the delivered score, go to Score Builder > Sample Scores in the application help.

The predictive scenario **Channel Affinity** uses the SAP HANA rules framework (HRF) for the heuristic scoring of the channel affinity. The scoring is based on the data resulting from already performed campaigns. For the calculation, the same mechanism is used as for the calculation of the campaign success. Only campaigns with interaction profiles (including steps) can be evaluated.

The predictive scenario **Channel Affinity** includes the following components:

1. A set of SAP HANA views for the data source:
   - sap.hana-app.cuan.cpred.datafoundation.internal/CA_CHN_AFF_FND. The view joins the SAP HANA views listed as follows, and it calculates the success rate based on the key figures provided by the joined SAP HANA views.
   - sap.hana-app.cuan.cpred.datafoundation.internal/CA_CHN_AFF_CONTACTS. The view provides the contacts including the relevant attributes.
   - sap.hana-app.cuan.cpred.datafoundation.internal/CA_CHN_AFF_CPG. The view provides the number of campaigns per contact.
   - sap.hana-app.cuan.cpred.datafoundation.internal/CA_CHN_AFF_SUCC_CPG. The view provides the number of successful campaigns per contact.

2. HRF vocabulary for the **Channel Affinity** score: system-local.sap.hana-app.cuan.cpred.hrf/SAP_CHANNEL_AFFINITY.hrvocabulary. The vocabulary is generated when you carry out the technical configuration wizard in the course of setting up SAP hybris Marketing 1508.

   **Note**
   
   Please ensure that you have installed the SAP HANA rules framework (HRF).

   For more information about how to install HRF, see the section Optional Configuration Settings for SAP hybris Marketing > Scoring Based on HANA Rules Framework (HRF) in the Installation Guide for SAP hybris Marketing at http://help.sap.com/mkt Installation and Upgrade Information.

3. The Predictive scenario **Channel Affinity** (SAP_CHANNEL_AFFINITY) and the segmentation profile **All Contacts (B2B)** including the attribute **Channel Affinity**.

   To enable the usage of the segmentation attribute **Channel Affinity**, define a predictive model (per interaction channel) based on the predictive scenario **Channel Affinity** (SAP_CHANNEL_AFFINITY), create model fits, and publish the best model fit. For an example, see Creating a Predictive Model for Channel Affinity on the Help Portal at http://help.sap.com/mkt Application Help > SAP Hybris Marketing > SAP Hybris Marketing Worksets and Applications > Data Management > Predictive Models > Best Practices.

   To prepare the system for the usage of the segmentation attribute **Channel Affinity**, perform the following system administration tasks:
   - Run the technical configuration for the HRF setup. For more information, see the installation guide for SAP hybris Marketing on SAP Help Portal at http://help.sap.com/mkt Installation and Upgrade Information.
   - Activate the BC Set CEI_ADT_CHANNEL_AFFINITY. It assigns the predictive scenario **Channel Affinity** to the segmentation object SAP_CONTACT ENGAGEMENT_11SP8.
Activate the BC Set `CEI_ADT_CHANNEL_AFFINITY_ENABLE` to enable the predictive scenario, and to make the attribute `Channel Affinity` available in the segmentation.
10 Recommendation

Use

SAP Hybris Marketing Recommendation is shipped with standard delivery algorithms that are pre-configured with standard delivery data sources. The data sources are configured as SAP HANA views. You can modify the standard delivery data source settings in Customizing for SAP Hybris Marketing under Recommendation ▶ Data Source Definition ▶ Recommendation ▶ Data Sources.

Data Sources

Recommendation provides the following standard delivery data sources:

- **SAP Hybris Marketing Product (CEI_CUAN_PRODUCT)**
  This data source uses the SAP HANA view sap.hana-app.cuan.common.internal/CA_D_CUAN_PRODUCT_ROOT which returns SAP Hybris Marketing products stored in database table CUAND_PROD_ROOT. SAP Hybris Marketing uses a 16 digit GUID as a product identifier. The sap.hana-app.cuan.common.internal/CA_D_CUAN_PRODUCT_ROOT view returns the following:
  - Product GUID
  - Product name
  - Product description
  - A product image

- **SAP Hybris Marketing Product Category (CEI_CUAN_PRODUCT_CAT)**
  This data source uses the SAP HANA view sap.hana-app.cuan.common.internal/CA_D_PRODCAT CATEGORY_ID_CLF which returns the SAP Hybris Marketing product categories stored in database table CUAND_PROD_CATEG.

- **SAP Hybris Marketing Interactions (CEI_IA_IC)**
  This data source uses the SAP HANA view sap.hana-app.prodreco.internal/CA_INTERACTIONS which joins the following SAP Hybris Marketing database tables:
  - The interaction information is captured and stored in:
    - CUAND_CE_IA_RT
    - CUAND_CE_IA_PROD
  - Store contact information is stored in CUAND_CE_IC_ROOT
  This view returns the following:
  - The consumer who performed the interaction
  - The product the interaction was performed on
  - The model type that provided the product the interaction was performed on

- **SAP Hybris Marketing IC Consumer (CEI_IC_CONSUMER)**
  This data source uses the SAP HANA view sap.hana-app.cuan.contact/CA_D_INTERACTION_CONTACT which returns the SAP Hybris Marketing consumer information stored in database table CUAND_CE_IC_ROOT.

- **SAP ERP Customer (ERP_KUNNR)**
  This data source uses the SAP HANA view sap.hana-app.prodreco.internal/CA_ERP_CUSTOMER which returns the SAP ERP customer information stored in database table KNA1.

- **SAP ERP Material Group (ERP_MATKL)**
This data source uses the SAP HANA view `sap.hana-app.prodreco.internal/AT_MATERIALGR_DESC_CF` which returns the following:

- **SAP ERP material groups**
  - This information is stored in database table `T023`.
- **SAP ERP material descriptions**
  - This information is stored in database table `T023T`.

- **SAP ERP Material (ERP_MATNR)**
  This data source uses the SAP HANA view `sap.hana-app.prodreco.internal/AT_MATERIALGR_DESC_CF` which returns the following:
  - **SAP ERP materials**
    - This information is stored in database table `MARA`.
  - **SAP ERP material descriptions**
    - This information is stored in database table `MAKT`.
  - **SAP ERP product hierarchies of the materials**
    - This information is stored in database table `T179T`.
  - **SAP ERP material groups that the material belongs to**
    - This information is stored in database table `T023T`.

- **SAP ERP Material Product Hierarchy (ERP_PRDHA)**
  This data source uses the SAP HANA view `sap.hana-app.prodreco.internal/AT_PROD_HIERARCHY_CF` which returns the following:
  - **SAP ERP product hierarchies**
    - This information is stored in database table `T179`.
  - **SAP ERP product hierarchy descriptions**
    - This information is stored in database table `T179T`.

- **SAP ERP Sales Document Items (ERP_SDITEM)**
  This data source uses the SAP HANA view `sap.hana-app.prodreco.internal/CA_ERP_SD_IC_CONSUMER_CUAN_PROD` that joins the following:
  - **SAP ERP sales document header table** `VBAK` and **SAP Hybris Marketing Interaction contact table** `CUAND_CE_IC_ROOT`.
    - This retrieves the SAP Hybris Marketing Interaction contact on the SAP ERP sales document.
  - **SAP ERP sales document item table** `VBAP` and **SAP Hybris Marketing product facet table**
    - This retrieves the SAP Hybris Marketing product representation of the SAP ERP items in the sales documents.

  This view returns the following:
  - **SAP ERP sales document ID**
  - **SAP ERP sales document type**
  - **SAP ERP sales document date**
  - **SAP ERP sales document requested delivery date**
  - **SAP ERP customer number**
  - **SAP ERP material number**
  - **SAP ERP material group**
  - **SAP ERP product hierarchy**
  - **SAP Hybris Marketing Interaction contact**
  - **SAP Hybris Marketing product key**

- **SAP ERP Sales Document Item Material Group (ERP_SDITEM_MATKL)**
This data source uses the SAP HANA view sap.hana-app.prodreco.internal/CA_ERP_SD_IC_CONSUMER_CUAN_PROD. Refer to data source SAP ERP Sales Document Items (ERP_SDITEM) for detailed information.

- SAP ERP Sales Document Item Product Hierarchy (ERP_SDITEM_PROD_HIER)
  This data source uses the SAP HANA view sap.hana-app.prodreco.internal/CA_ERP_SD_IC_CONSUMER_CUAN_PROD and returns the SAP ERP customer information stored in database table KNA1. Refer to data source SAP ERP Sales Document Items (ERP_SDITEM) for detailed information.

Reusable Views

Recommendation provides the following reusable views:

- **Recommendation Analytics Info cube** (sap.hana-app.prodreco.internal/CA_C_RECO_ANALYTICS)
  The view returns the relations of the click through interactions of the recommendation scenarios and the sales order interactions on the same product and same contact. It also returns the corresponding product details (i.e. product name, product description) and product category details (i.e. product category name, product category description).

- **Recommendation Analytics Report** (sap.hana-app.prodreco.internal/CA_RECO_ANALYTICS)
  The view returns the following KPIs:
  - **RECO_COUNT**: The total number of impressions for the scenario since it was activated.
  - **CLICK_THROUGH_COUNT**: The total number of click-throughs for the scenario since it was activated.
  - **CLICK_THROUGH_RATE**: The proportion (percentage) of recommended items that are clicked on by customers. The KPI is calculated by dividing the CLICK_THROUGH_COUNT by the RECO_COUNT.
  - **CONVERT_COUNT**: The total number of conversions for the scenario since it was activated.
  - **CONVERT_RATE**: The proportion (percentage) of recommended items that are purchased by users. The KPI is calculated by dividing the CONVERT_COUNT by the CLICK_THROUGH_COUNT.

- **Offer Interaction Report** (sap.hana-app.cuan.offer.external/CA_OFFER_IA_REPORT)
  The view contains the following KPIs
  - **NumberOfOffers**: This KPI represents the number of offers shown in, for example, a connected web shop.
  - **ClickThroughRateInPercent**: This KPI represents the rate of offers clicked in, for example, a connected web shop.
  - **NumOfClickedOffers**: This KPI represents the number of offers clicked in, for example, a connected web shop.
  - **NumOfDisplayedOffers**: This KPI represents the number of offers displayed in, for example, a connected web shop.

  The following are examples of how these KPIs can be filtered:
  - the position where the offer has been placed.
  - the assigned communication medium.
  - the assigned media type.
  - the used language.
  - the interaction type.
  - whether it is a recommendation scenario or not.

  The view can be consumed in tools such as SAP Lumira to create reports.

For detailed information about a specific SAP HANA information model, use the *Auto Documentation* function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.
For more information about SAP HANA Studio, see the SAP HANA Developer Guide at http://help.sap.com.
11 Planning

Use

In SAP Hybris Marketing, a series of additional SAP HANA views is prepared for enhanced business reporting on budget planning and marketing spend management data.

The following reusable views are delivered:

- **Program and campaign data including proposed and planned spend, commitments, and actual spend** (sap.hana-app.cuan.pgm.v.analytic/CA_MKT_PROGRAM)
- **Budget data including planned and allocated budget** (sap.hana-app.cuan.bpln.v.analytic/CA_MKT_PLNG_BUDGET)

The following query view is delivered as an example of a view that can be consumed in tools such as SAP Lumira to create reports:

- **Planned and allocated budget, actuals, and commitments assigned to programs and campaigns** (sap.hana-app.cuan.pgm.v.analytic/CA_MKT_PLNG_BUDGET_ACTUAL_AND_COMMIT)

You must assign the sap.hana-app.cuan.pgm.roles::MarketingPlanningAnalytics role to users so that they can access the data returned by these views.

⚠️ **Note**

The query view is delivered as a template and is not intended for productive use. You can use the query view as a model to build your own query views that consume the reusable views.

For more information, see the Setting up Budget Planning section in the installation guide for SAP Hybris Marketing on SAP Help Portal at [http://help.sap.com/mkt](http://help.sap.com/mkt)

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at [http://help.sap.com](http://help.sap.com)
Relationship Analysis – Presales

The business data for the Relationship Analysis – Presales subworkset is provided by the following content objects:

- **Query**: CUAN_CRMRELANAMY_Q001
- **InfoProvider**: 2HH7DXN62XHE8Y21S2NLQOC7FHA
- **SAP HANA information model**: sap.hana-app.cuan.common.crm/CA_CRM_RELANA_MYDATA

Data Flow

The above objects provide the business data according to the analytical dataflow used in SAP hybris Marketing. For more information, see the section Dataflow Overview.

Note that the above listed SAP HANA information models reference a series of subordinate models, each contributing to the provision of the business data required for the Relationship Analysis.
13 Relationship Analysis – Sales

The accounts-related business data for the Relationship Analysis – Sales subworkset is provided by different sets of business content objects. Each set is focused on a specific shape of the relevant data.

Business Content Objects

- **Without target group integration**
  The following objects provide the data excluding target groups:
  - OData service: CUAN_REL_ANALYSIS_SRV
  - SAP HANA information model: sap.hana-app.cuan.ai / CA_AI_RELATIONSHIP_MONITOR

- **With target group integration**
  The following objects provide the data including target groups created in the application:
  - OData service: CUAN_REL_ANALYSIS_SRV
  - SAP HANA information model: sap.hana-app.cuan.ai / CA_AI_RELATIONSHIP_MONITOR_TG

- **Excluding sales data**
  The following objects provide the data excluding sales data:
  - OData service: CUAN_REL_ANALYSIS_SRV
  - SAP HANA information model: sap.hana-app.cuan.ai / CA_AI_RELATIONSHIP_MONITOR_WO_SLS

- **With target group integration and excluding sales data**
  The following objects provide the data including target groups, and excluding sales data:
  - OData service: CUAN_REL_ANALYSIS_SRV
  - SAP HANA information model: sap.hana-app.cuan.ai / CA_AI_RELATIONSHIP_MONITOR_TG_WO_SLS

- **With target group integration and authorization**
  The following objects provide the data including target groups:
  - Query: Relationship Analysis Easy Query 1 (CUAN_RELANALYSIS_Q001). The query provides the data depending on the user’s general authorization.
  - OData service: CUAN_RELANALYSIS_Q001_SRV
  - Query: Relationship Analysis Easy Query 2 (CUAN_RELANALYSIS_Q002). The query provides the data depending on the user’s general authorization and my-customer assignments.
  - OData service: CUAN_RELANALYSIS_Q002_SRV
  - InfoProvider for both queries: 2HRX91WUIG5TNKUFH1ACCLT9K8
  - SAP HANA information model for both queries: sap.hana-app.cuan.ai / CA_AI_RELATIONSHIP_MONITOR_WITH_TG


Data Flow

The above objects provide the business data according to the analytical dataflow used in SAP hybris Marketing. For more information, see the section Dataflow Overview.
Note that the above listed SAP HANA information models reference a series of subordinate models, each contributing to the provision of the business data required for the Relationship Analysis.

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at http://help.sap.com.
Pocket Margin Reporting

The following business content is modeled for reporting on pocket margin increase and decrease. The list of objects includes the OData services, which allow for direct reporting. Note that the OData services are listed with the external service name. The queries are comprehensive, providing all attributes of a business purpose.

Business Content Objects

- **Pocket Margin Outliers (Positive)** (CUANPMOUTLH01_Q001_V01)
  The query returns the customers in their sales organization with a significant increase in pocket margin % of the current 4 weeks, in comparison to the pocket margin % of the previous 4 weeks. Outliers are customers with a variance of 10% or more. Contains the key figures: Change Pocket Margin in %; Current Pocket Margin; Current Pocket Margin in %; Current Revenue; Previous Pocket Margin; Previous Pocket Margin in %; Previous Revenue
  - OData service: CUANPMOUTLH01_Q001_EQ_SRV
  - InfoProvider: 2HKLM0IBN62GMAP552HRUTAKVPV
  - SAP HANA information model: sap.hana-app.cuan.crpm / CA_CRPM_PM_OUTLIER_4_WEEKS_POS

- **Pocket Margin Outliers (Negative)** (CUANPMOUTLH02_Q001_V01)
  The query returns the customers in their sales organization with a significant decrease in pocket margin % of the current 4 weeks, in comparison to the pocket margin % of the previous 4 weeks. Outliers are customers with a variance of 10% or more. Contains the key figures: Change Pocket Margin in %; Current Pocket Margin; Current Pocket Margin in %; Current Revenue; Previous Pocket Margin; Previous Pocket Margin in %; Previous Revenue
  - OData service: CUANPMOUTLH02_Q001_EQ_SRV
  - InfoProvider: 2HIJ5QGI9SJ8BNC3JPS0RTG6Q0U
  - SAP HANA information model: sap.hana-app.cuan.crpm / CA_CRPM_PM_OUTLIER_4_WEEKS_NEG

Data Flow

Only the authorization object for sales organization is available. If you want to use a different characteristic, for example, sales group, you need to use the existing authorization object, query, OData service, and SAP HANA information model as a basis to create your own objects.

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

For more information about SAP HANA Studio, see the SAP HANA Developer Guide at [http://help.sap.com](http://help.sap.com).
15 Enhanced Reporting

Use

In SAP Hybris Marketing, a series of additional queries is prepared for enhanced business reporting. The following queries are available based on SAP ERP business data, as provided by the according SAP HANA information models (identified by the hierarchy path and technical name of the model):

- **Margin Decomposition**
  - *Margin Decomposition: Global Distribution* (CUANFMDH01_Q001_V01)
  - *Margin Decomposition by Division* (CUANFMDH01_Q001_V02)
  - *Margin Decomposition by Sales District* (CUANFMDH01_Q001_V04)
  - *Margin Decomposition by Sales Office and Sales Group* (CUANFMDH01_Q001_V05)
  - *Margin Decomposition by Customer Group* (CUANFMDH01_Q001_V06)
  - *Margin Decomposition by Product Group* (CUANFMDH01_Q001_V07)

The above queries contain the key figures: Accrued Discounts; Amount; Cost of Goods Sold; Direct Costs; Gross Margin; Gross Revenue; Invoice Discounts; Invoices; Number of Customers; Number of Products; Pocket Margin; Revenue; Surcharges.
  - infoProvider: 2HFB28ZHVEM0FAE31BW6W9C9B54
  - SAP HANA information model: sap.hana-app.cuan.common / CA_CVI_FMD

- **CVI Relationship Analysis**
  - *CVI Relationship Analysis by Customer Group* (CUANFMDH01_Q003_V01)
  - *CVI Relationship Analysis by Sales District* (CUANFMDH01_Q003_V02)
  - *CVI Relationship Analysis by Division* (CUANFMDH01_Q003_V03)
  - *CVI Relationship Analysis by Sales Office and Sales Group* (CUANFMDH01_Q003_V04)
  - *CVI Relationship Analysis by Product Group* (CUANFMDH01_Q003_V05)

The above queries contain the drill-down columns: Gross Revenue; Discount; Discount %; Revenue; Pocket Margin; Pocket Margin %; Gross Margin; Gross Margin %.
  - infoProvider: 2HFB28ZHVEM0FAE31BW6W9C9B54
  - SAP HANA information model: sap.hana-app.cuan.common / CA_CVI_FMD

- **Revenue and Margin**
  - *Revenue and Margin Over Time for Calendar Quarters* (CUANFMDH01_Q005_V01)
  - *Revenue and Margin Over Time for Calendar Months* (CUANFMDH01_Q005_V01)
  - *Revenue and Margin Over Time for Calendar Weeks* (CUANFMDH01_Q005_V03)

The above queries contain the drill-down columns: Revenue; Pocket Margin; Pocket Margin %.
  - infoProvider: 2HFB28ZHVEM0FAE31BW6W9C9B54
  - SAP HANA information model: sap.hana-app.cuan.common / CA_CVI_FMD

- **Open Items from Financials**
  - *Open Items from Financials* (CUANFINH01_Q001_V01)
  - *Open Items from Financials by Customer for Months* (CUANFINH02_H001_V01)

The query contains the drill-down columns: Total / Open.
  - infoProvider: 2HIUC4RDQE4LWPO5Y3Q6UDVAI36
  - SAP HANA information model: sap.hana-app.cuan.common / CA_CRPM_FIN_ITEMS
The query contains the drill-down columns: Total / Open
○ InfoProvider: 2HMKUFZAF2UTUH8964KJN005O5A
○ SAP HANA information model: sap.hana-app.cuan.common / CA_CVI_FMD

Open Items from Financials by Customer for Country (CUANFINH02_H001_V02)
Open Items from Financials by Customer for Sales District (CUANFINH02_H001_V03)
The above queries contain the drill-down columns: Total / Open
○ InfoProvider: 2HMKUFZAF2UTUH8964KJN005O5A
○ SAP HANA information model: sap.hana-app.cuan.common / CA_CRPM_FIN_ITEMS_BY_INVOICES

• Margin Decomposition for Contracts
  Margin Decomposition for Contracts (CUANFMDCTRH01_Q001_V01)
  Margin Decomposition for Contracts by Contract Types (CUANFMDCTRH01_Q001_V02)
  Margin Decomposition for Contracts by Contracts (CUANFMDCTRH01_Q001_V03)
The above queries contain all KPIs
○ InfoProvider: 2HSXUHDS8T0GZKT3XFJAK755SJ0
○ SAP HANA information model: sap.hana-app.cuan.crpm / CA_CRPM_FMD_CONTRACTS

• Invoice Discount Amounts
  Invoice Discount Amounts by Division (CUANFMDH01_Q002_V01). Contains the drill-down rows: Division; Discount Group, and on column: Amount
  Invoice Discount Amounts by Sales District (CUANFMDH01_Q002_V03). Contains the drill-down rows: Division; Discount Group, and on column: Amount.
  Invoice Discount Amounts by Sales Office and Sales Group (CUANFMDH01_Q002_V04). Contains the drill-down rows: Sales Office; Sales Group; Discount Group, and on column: Amount.
  Invoice Discount Amounts by Customer Group (CUANFMDH01_Q002_V05). Contains the drill-down rows: Customer Group; Discount Group, and on column: Amount.
  Invoice Discount Amounts by Product Group (CUANFMDH01_Q002_V06). See above.
  Invoice Discount Amounts by Calendar Week (CUANFMDH01_Q002_V07). See above.
○ InfoProvider: 2HFB28ZHVEM0FAE31BW6W9C9B54
○ SAP HANA information model: sap.hana-app.cuan.crvm / CA_CVI_FMD

• Basic Margin Decomposition
  Basic Margin Decomposition: Global Distribution (CUANSMDH01_Q001_V01)
  Basic Margin Decomposition by Division (CUANSMDH01_Q001_V02)
  Basic Margin Decomposition by Sales District (CUANSMDH01_Q001_V04)
  Basic Margin Decomposition by Sales Office and Sales Group (CUANSMDH01_Q001_V05)
  Basic Margin Decomposition by Customer Group (CUANSMDH01_Q001_V06)
  Basic Margin Decomposition by Product Group (CUANSMDH01_Q001_V07)
The above queries contain the key figures: Accrued Discounts; Cost of Goods Sold; Gross Margin; Gross Revenue; Invoice Discounts; Invoices; Revenue; Surcharges.
○ InfoProvider: 2HH2VTUU01CVKDTK3GL9ZZ8P1AJ
○ SAP HANA information model: sap.hana-app.cuan.common / CA_CRPM_SMD

For detailed information about a specific SAP HANA information model, use the Auto Documentation function in SAP HANA Studio. This function provides a PDF document for each model, including all fields of the model, and a list of models that are referenced.

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SAP In-Memory Computing  SAP HANA Appliance  Development Information  SAP HANA Developer Guide
Sales Reporting

Use

In SAP Hybris Marketing, a series of additional queries is prepared for enhanced business reporting.

Two groups of queries are available:

- Comprehensive queries providing all attributes of a business object, such as sales contracts (max. queries).
- Specific queries already tailored for a specific business focus, such as open sales contracts in current year.

Comprehensive Queries

The comprehensive queries listed below are provided for the custom design of reports based on the full set of attributes. Typically, SAP BusinessObjects applications, such as WebIntelligence, are based on such queries. For more information about how to integrate SAP BusinessObjects reports in SAP Hybris Marketing, see the Extensibility Guide.

CRM Business Data

The following queries are available based on CRM business data as provided by the according SAP HANA information models (identified by the hierarchy path and the technical name):

- **CRM Activities (Max)** (CUANCRMACTB01_Q001)
  - InfoProvider: 2HSF36GD7RM7QXWTVUV5VKX8A2S
  - SAP HANA information model: sap.hana-app.cuan.ai.crm/CA_AI_CRM_ACTIVITY
- **CRM Campaigns (Max)** (CUANCRMCAMB01_Q001)
  - InfoProvider: 2HSF36GD7RM7QXWTVUV5VKX8A2S
  - SAP HANA information model: sap.hana-app.cuan.ai.crm/CA_AI_CRM_CAMPAIGNS
- **CRM Sales Contracts (Max)** (CUANCRMCONB01_Q001)
  - InfoProvider: 2HSF36GD7RM7QXWTVUV5VKX8A2S
  - SAP HANA information model: sap.hana-app.cuan.ai.crm/CA_AI_CRM_SLS_CONTRACT
- **CRM Leads (Max)** (CUANCRMLEAB01_Q001)
  - InfoProvider: 2HSF36GD7RM7QXWTVUV5VKX8A2S
  - SAP HANA information model: sap.hana-app.cuan.ai.crm/CA_AI_CRM_LEAD
- **CRM Opportunities (Max)** (CUANCRMOPPB01_Q001)
  - InfoProvider: 2HSF36GD7RM7QXWTVUV5VKX8A2S
  - SAP HANA information model: sap.hana-app.cuan.ai.crm/CA_AI_CRM_OPPORTUNITY_HEADER
- **CRM Sales Quotations** (CUANCRMQUOB01_Q001)
  - InfoProvider: 2HSF36GD7RM7QXWTVUV5VKX8A2S
  - SAP HANA information model: sap.hana-app.cuan.ai.crm/CA_AI_CRM_SLS_QUOT

ERP Business Data

The following queries are available based on ERP business data as provided by the according SAP HANA information models:

- **Sales Contracts (Max)** (CUANSLSCONB01_Q002)
Customer Lifetime Value and Churn Rate

The following query provides a full set of attributes for reports including customer lifetime value figures or churn rate:

- **Customer Lifetime Value and Churn Rate** (CUANCLVCHURB01_Q001)
  - InfoProvider: 2HPI12Q0Q2LS1P05BD972TMLLR6
  - SAP HANA information model: sap.hana-app.cuan.ai/CA_AI_CUSTOMER_CLV_EXT

Specific Queries

The following queries focus on specific analytic requirements. They are provided with the respective OData services, which allow for direct reporting. Note that the OData services are listed with the External Service Name.

- **Fast Climbers** (CUANCUSABCB01_Q001)
  - Provides the 5 best customers of class B, and the 5 best customers of class C.
  - OData service: CUANCUCUSABCB01_Q001_SRV
  - InfoProvider: 2HFP52QNTXYV46U5B2752Q8GI9C
  - SAP HANA information model: sap.hana-app.cuan.ai/CA_AI_CUSTOMER_TREND_ABC_EXT

- **Descending Customers** (CUANCUSABCB01_Q002)
  - Provides the 10 lowest rated customers of class A.
  - OData service: CUANCUCUSABCB01_Q002_SRV
  - InfoProvider: 2HFP52QNTXYV46U5B2752Q8GI9C
  - SAP HANA information model: sap.hana-app.cuan.ai/CA_AI_CUSTOMER_TREND_ABC_EXT

- **Sales Contracts** (CUANSLSCONB01_Q001)
  - Provides all open (status not completed) sales contracts of the current year.
  - OData service: CUANSLSCONB01_Q001_SRV
  - InfoProvider: 2HFY5YFKJQR9EU9D4U0VNLNYDV
  - SAP HANA information model: sap.hana-app.cuan.common/CA_SALES_CONTRACT

- **Quotations** (CUANSLSQUOB01_Q001)
  - Provides all open (status not completed) sales quotations of the current year.
  - OData service: CUANSLSQUOB01_Q001_SRV
  - InfoProvider: 2HLEBBND4Y6E16UI2W7LPEEZN3X
  - SAP HANA information model: sap.hana-app.cuan.common/CA_SALES_QUOTATION

- **Customer Lifetime Value per Customer Segment** (CUANCUSTLVH03_Q001)
  - OData service: CUANCUSTLVH03_Q001_SRV
Sales Orders of the last 4 Years (CUANSLSORDB01_Q001)

Provides all open (status not completed) sales orders of the last 4 years.

- **InfoProvider:** 2HOVIARBW0RAY0CKGZ6TXB8264
- **SAP HANA information model:** sap.hana-app.cuan.common/CA_SLS_ORDER

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**More Information**

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