SAP Analytics Cloud
for BW customers

June 25, 2019

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THE BEST RUN SAP

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Agenda

Foundation

- BW Live connection – embracing SAP BW, BW/4HANA and S/4HANA
- Value proposition for SAP BW customers
- Integration roadmap
- Target BW releases

Analytics Designer

- Create custom analytic applications and closed loop scenarios

Data Analyzer

- Analyze BW query data instantly without any upfront SAC modeling

Q & A

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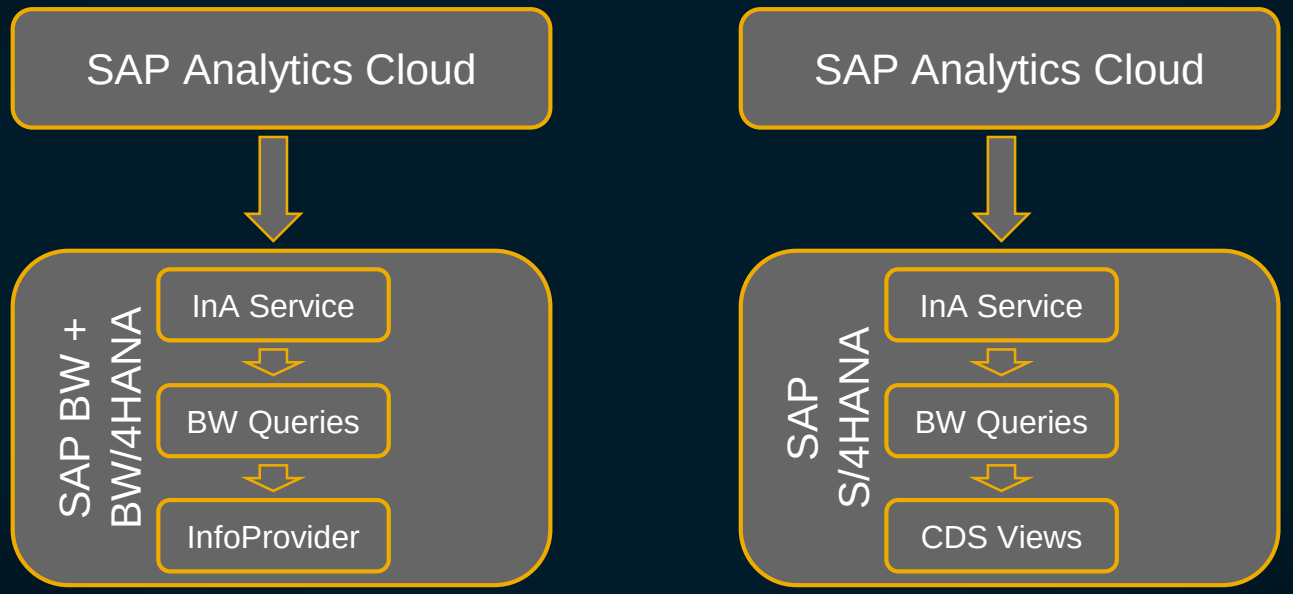
Foundation: BW Live Connectivity - Scope

“BW Live” embraces live connectivity to BW, BW/4HANA and S/4HANA

- SAP Analytics Cloud connects to the BW Query Interface (“InA Service”) available in all those systems to consume live data
- In S/4HANA systems, CDS Views are exposed through automatically generated BW Queries for analytical live data consumption
- In this document, for readability, we will use the term “BW Live Connectivity” to denote live connectivity to SAP BW, SAP BW/4HANA and SAP S/4HANA altogether



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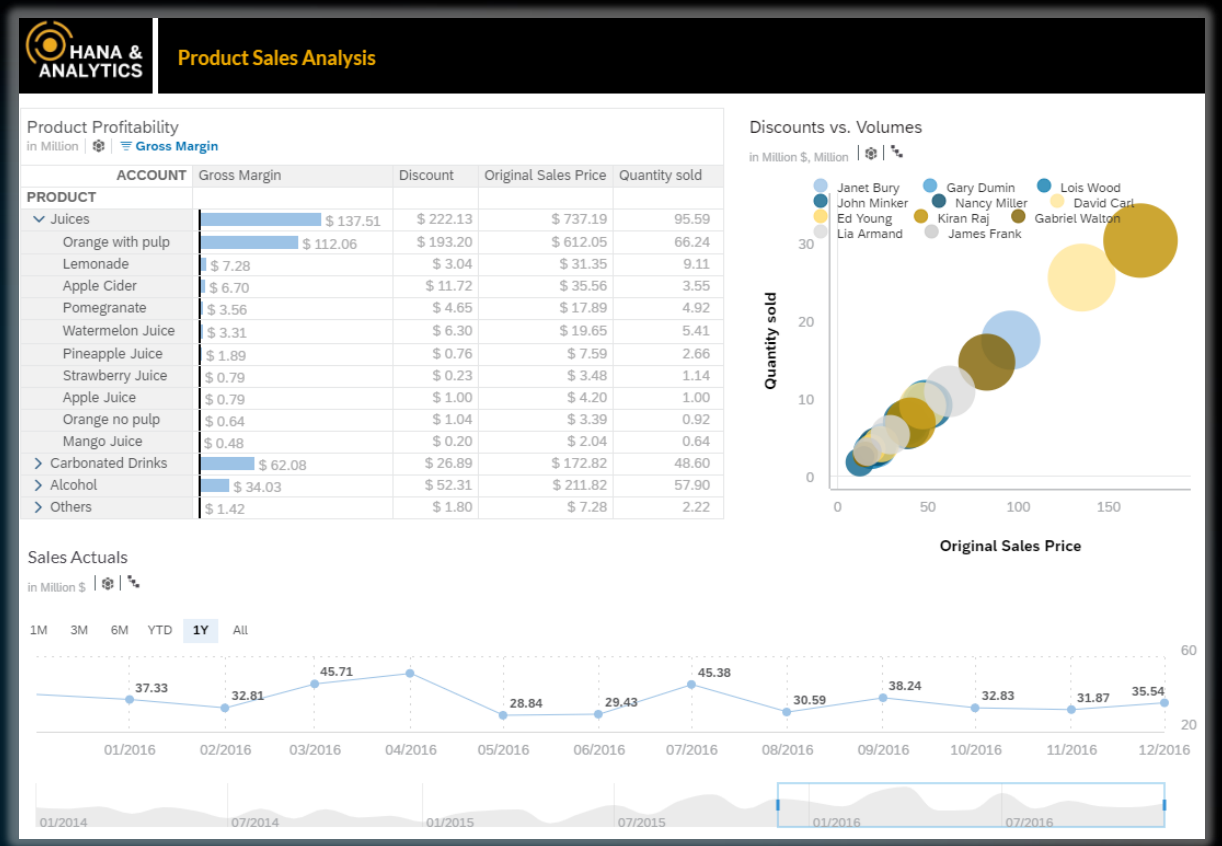
SAP Analytics Cloud - Value Proposition for BW Customers

Complement existing on-premise client usage on top of BW

- Great looking dashboards with BW live data out-of-the box
  - Can be created by end-users in a self-service fashion without help from IT and without scripting / coding
  - Linked Analysis: Simply define filter relations between charts and tables without scripting
  - Use Powerful visualizations not available in on-premise clients, e.g. time-series charts, in-line charts in tables (sparklines)
- Powerful options to enrich BW Query data, e.g.
  - Blending of live BW Query data with local / acquired data
  - Restricted Measure calculations on-the-fly

One stop shop for all analytics needs on top of BW

- Consolidation of heterogeneous landscape with SAP on-premise tools such as Bex Web / WAD, Design Studio, Lumira, BI Platform.



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SAP Analytics Cloud – Data connectivity to BW

Live Connectivity: Direct. Deep. Secure. Simple.

- No data replication
- Always report on latest information in BW
- Leverage all data authorizations from BW
- Leverage all investments in BW Queries and other meta data such as hierarchies
- Seamless drill-down from aggregated data to lowest data granularity in BW
- Best-in-class query interface to SAP BW: Access SAP BW features that cannot be accessed through standard SQL or MDX query interfaces
- When connecting from the corporate network, data is kept behind your firewall. No sensitive data will be moved to the Internet
- Support of BW Queries with two structures and cell calculations
- Support of all BW variable types
- Support of multiple BW parent-child hierarchies
- Parallel execution of BW Queries

Import Connectivity

- Import BW Query data into SAP Analytics Cloud local models
- Use all SAP Analytics Cloud features that are available with local models (e.g. Smart Assist features)
- Might provide a performance edge for overview dashboards with highly aggregated data and limited in-dashboard drill-down (drill-through to dashboards with live connectivity possible)

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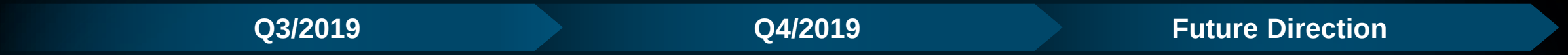
SAP Analytics Cloud
Integration roadmap with SAP BW Live Connections

Quarterly Release Schedule

Updates to the Timeline

Since launching in 2015, SAP Analytics Cloud received updates approximately every two weeks. As of version 2018.19, we're moving from a bi-weekly release schedule to a Quarterly Release schedule to align with SAP's global strategy for cloud application releases. This means you can expect a new version once every quarter.

The Product Plan timeline shown below will now reflect the current plan based on this Quarterly Release Schedule.



If you are on the Fast-Track subscription (updates every two weeks), please note that features may be available to you earlier than what is listed in the Quarterly Release Schedule timeline.

More information can be found here.

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Live connections to SAP BW

Q3/2019

Enhanced analytic capabilities

- Data blending
  - SAP BW live with SAP BW live
  - SAP BW live with S/4HANA live
- Enhanced variance chart (version-based)
- Enhanced Geo maps: Support choropleth layers (1)
- Enhanced tuple filters / linked analysis: Support for hierarchies (1)
- Prompting enhancements: Date Picker
- Data Analyzer: Standard pivot-style analysis of BW queries

Integration with BW concepts

- Enhanced support of Queries with two structures
  - Sorting
  - Thresholds based on individual structure member combinations
- Ad-hoc currency conversion

Performance Improvements

Q4/2019

Enhanced analytic capabilities

- Enhanced variance chart (time-based) **(1)**
- Calculation enhancements
  - Aggregation calculation (1)
  - Grand Total, % Grand Total
- Enhanced Data Analyzer
  - Export to Excel
  - Context menu capabilities
  - Navigation Panel capabilities

Integration with BW concepts

- Prompting enhancements
  - Copy & Paste
  - Display of attributes
- Improved support of compounded characteristics
- Display of images in table based on BW XXL attributes

Performance Improvements

Future Direction

Enhanced analytic capabilities

- Enhanced data blending scenarios
  - Blending of BW Live with HANA Live
  - Blending in BW HANA or other on-premise HANA engine
  - Blending on date dimension
- Custom grouping of dimension members
- Custom ordering of dimension members
- Enhanced Data Analyzer
  - Data display in Chart
  - Custom adjustments

Integration with BW concepts

- Linked Nodes support in hierarchies
- Further Prompting enhancements
- Improved support of queries with two structures (e.g. chart configuration with structure member combinations)
- Handling of Query changes in Story

Performance Improvements

Note: Most features on this slide require SAP BW 7.50 or higher and will not be supported with SAP BW 7.40. For more details on feature support see SAP Note 2715030.

(1) Requires SAP HANA

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BW Backend Version Recommendation

In order to use SAP Analytics Cloud with BW Live connections in a seamless manner, we recommend customers to upgrade their BW system to BW 7.50 or BW/4HANA as soon as possible.

Best support of planned SAP Analytics Cloud features will be provided with BW 7.50 SP16 on HANA or BW/4HANA 2.0, so customers are recommended to plan for a respective upgrade once those versions become available.

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Recent Innovations - Q1 and Q2 2019

Data Blending - Functionality

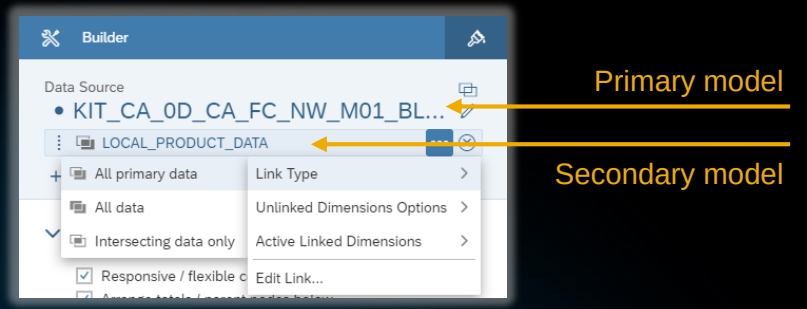
Blend data from BW live Queries with imported data (e.g. from local files) to analyze and visualize combined data sets

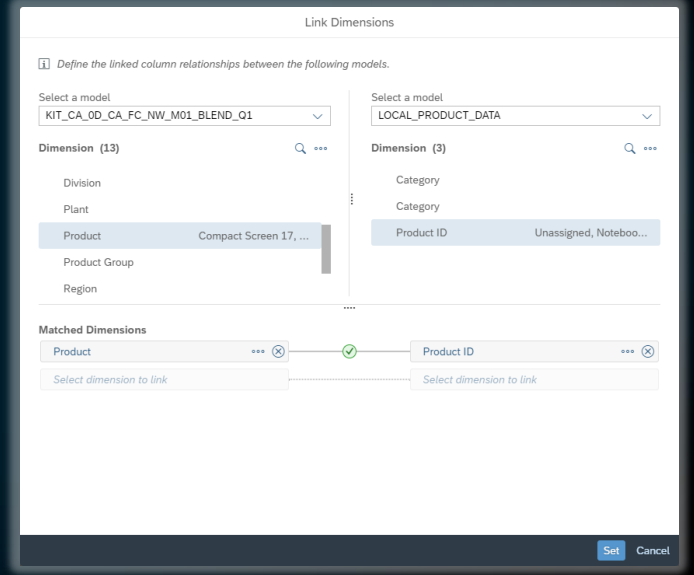
Blend Operations (Link Types)

- Left outer join, inner join and union supported as blend operations
- It is possible to link by ID (internal BW key) and description
- It is possible to link on hierarchical dimensions of primary model (if primary model is BW Query, hierarchy must be active in BW Query)

Blending Engine and Data Transfer

- Blend operations are executed in the SAP HANA engine of SAP Analytics Cloud (blending engine)
- Data transfer to blending engine through HANA Smart Data Integration (SDI) or Web browser (secured channels)
- Data is not persisted by the blending engine, caches are cleared automatically and instantly after the blend operation





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Data Blending - Details

Browser-based vs. SDI-based Blending

- Both types of blending support the same blend operations and the same number and types of blend operators (currently: BW live and imported/local models)
- Both types of blending differ in the technical channel to transfer the Query results from the on-premise BW system to the blending engine, and hence are each favorable in specific situations
- SDI-based blending: Data transfer through SDI infrastructure, optimized for high volume high throughput data transfer. Requires BW on HANA or BW/4HANA and setup of SDI (Data Provisioning Agent). Favorable in large scale production scenarios.
- Browser-based blending: Data transfer is tunneled through browser connection. Data volume is limited to 6MB max. Does not require SDI setup and is supported on BW 7.5 on any DB. Favorable for evaluation of supported functional scope of blending
- Data transfer through SDI always takes precedence over data transfer via browser connection when SDI is configured

Technical Prerequisites

- For general backend blending-related pre-requisites, refer to SAP note 2715871
- For browser-based blending, additionally refer to SAP notes 2737952 (for BW 7.50) and 2737953 (for BW/4HANA)

Roadmap – Extended Blending Scenarios

- SAP plans to extend the number and types of blending operators (for both browser-based and SDI-based blending):
- Blend more than two models
- Blending of BW live with BW live
- Blending of BW live with S/4 live
- Blending of BW live with HANA live

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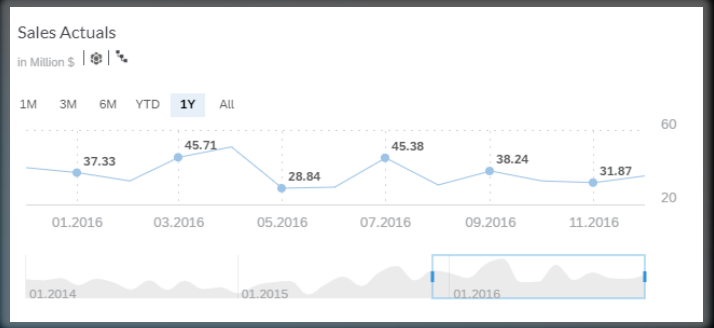
Time Series Chart and Date Range Filtering

Extended support of date dimension through time-series charts and dynamic date range filters

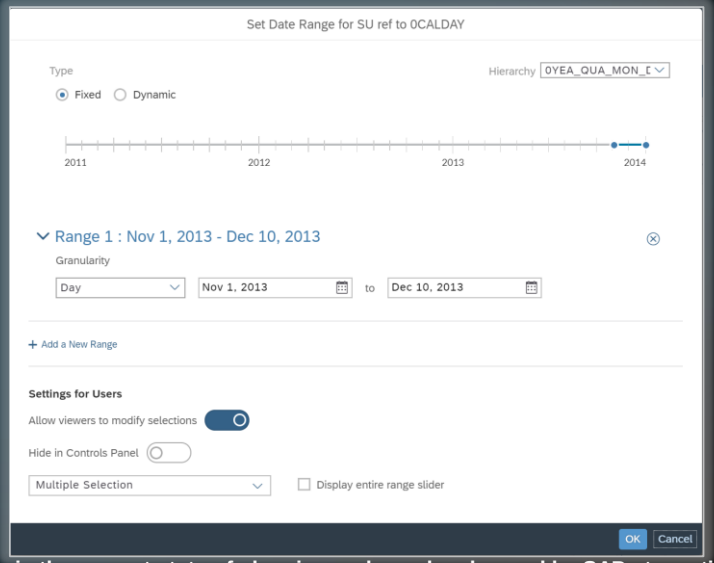
Time Series Chart

- Analyze date-based measures effectively
- Simple navigation by standard intervals
- Out-of-the-box drill-down by BW virtual date hierarchies (e.g. Year-Month-Date)
  - For active hierarchy
  - All hierarchy level dimensions for drill-down must be contained in Query
- Restrictions: Non-concatenated and fiscal date dimensions (e.g. 0CALMONTH2, 0QUART1, 0FISCPER) are not supported. 0CALYEAR as finest time granularity is not supported.



Date Range Filters

- Define a fixed date range filter based on static dates
- Define a dynamic date range filter based on offsets from current selected date granularity (e.g. last 3 months)
- Supported on actual date dimensions only (0CALDAY)



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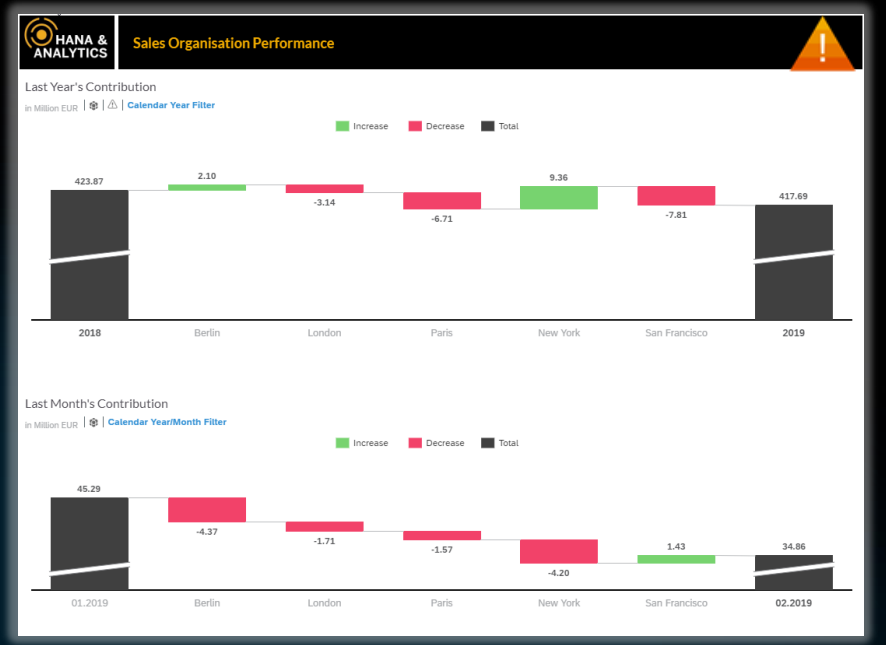
Waterfall Chart

Display BW live Query data in waterfall charts

- Create single-level waterfall chart using arbitrary measures (Details)
- Add a second dimension (Details)
- Ability to select interim totals (Details)
- Position parent totals before or after its children (Details)
- Decide whether the first measure starts from baseline or aggregated on top of last total (Details)
- Hide or show the root node (Details)
- Select whether the breakdown values will represent delta or actual values (Details)



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Variance Chart (Measure-based)

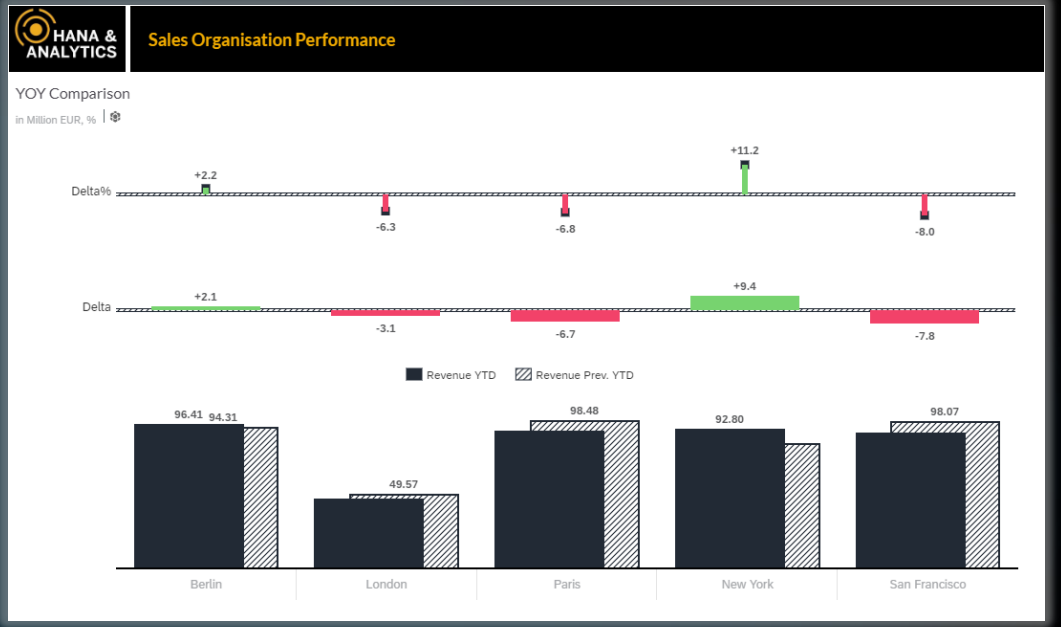
Display BW live Query data in variance charts

Measure-based

- Add a variance to your chart to compare the differences between measures (e.g. Actuals vs Forecast in a measure-based model)

Future Roadmap

- Version-based: Add a variance to your chart to compare the differences between versions (e.g. Actuals vs Forecast in an account-based model)
- Time-based: Add a variance to your chart to compare the differences between periods (i.e. current vs previous period)



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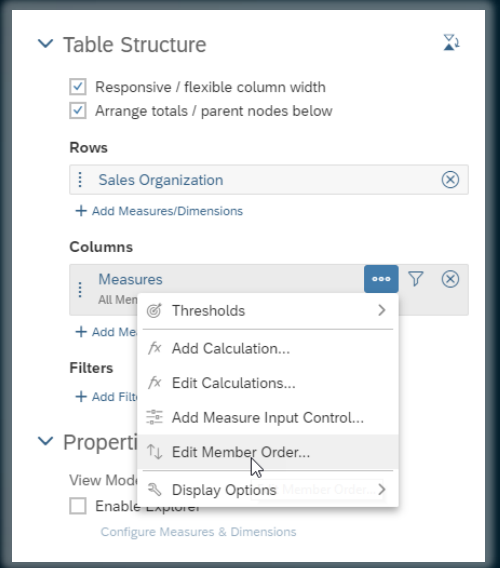
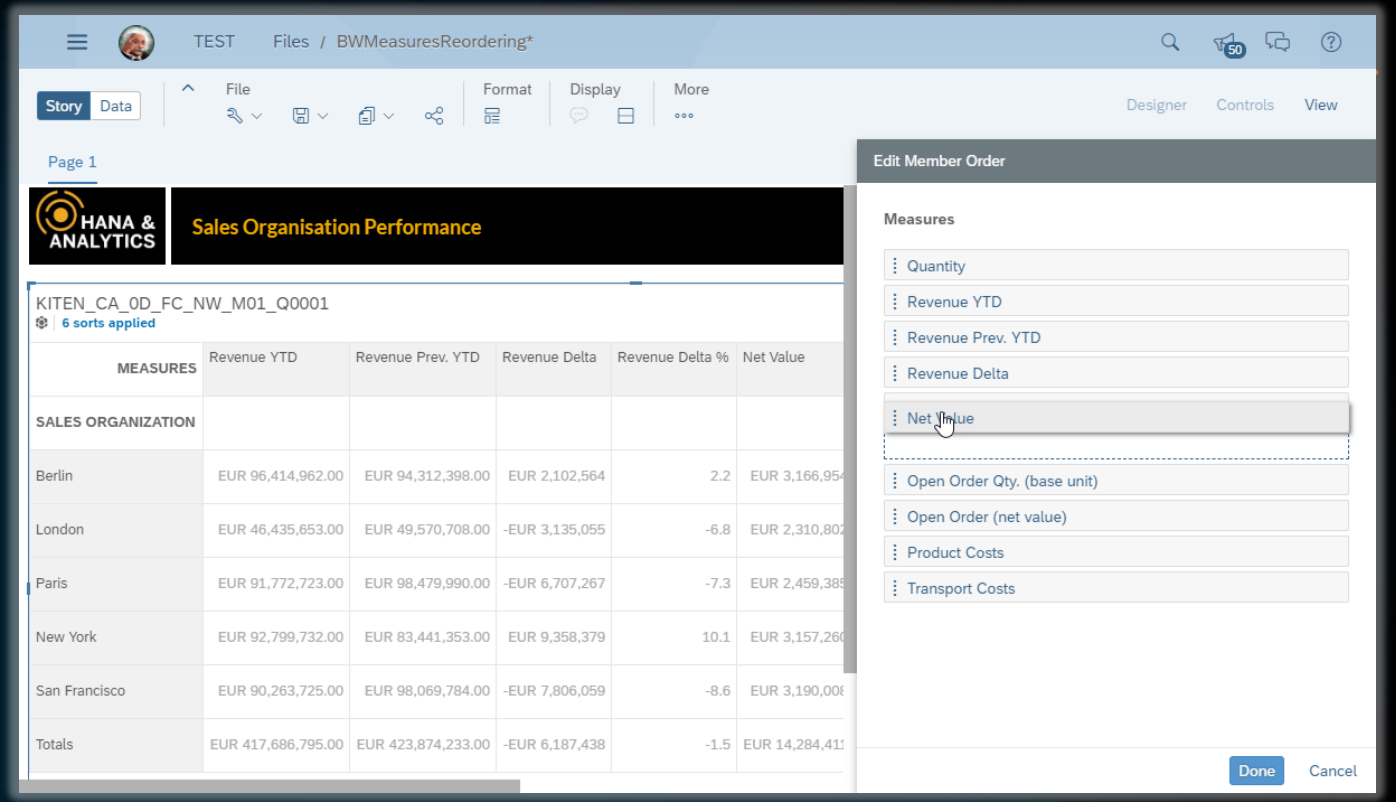
Reordering of Measures

Reorder measures in tables

Custom measure order

- Define the order of measures in a table
- Remark: Not supported for hierarchical measures





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Tuple Filter and Linked Analysis (Flat Dimensions)

Support Linked Analysis with Multiple Dimensions

Tuple Filters

- A tuple filter is an asymmetric selection of members of two or more dimensions
- Example simple filter: Select 2018 and 2019 for Berlin and London
- Example tuple filter: Select 2018 for Berlin and 2019 for London
- Tuple filters are a special case of complex filters (i.e. arbitrary AND/OR combinations)

Linked Analysis with multiple dimensions

- Tuple filters enable linked analysis between charts with two or more dimensions, as data selection in such charts forms generally a tuple filter

Backend Pre-Requisites

- Requires BW/4HANA 2.0 or BW 7.50 SP16 on HANA, see SAP note 2715030 for more details

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Planned Innovations – Q3 and Q4 2019

Variance Chart (Time- and Version-based)

Display BW live Query data in variance charts

Version-based

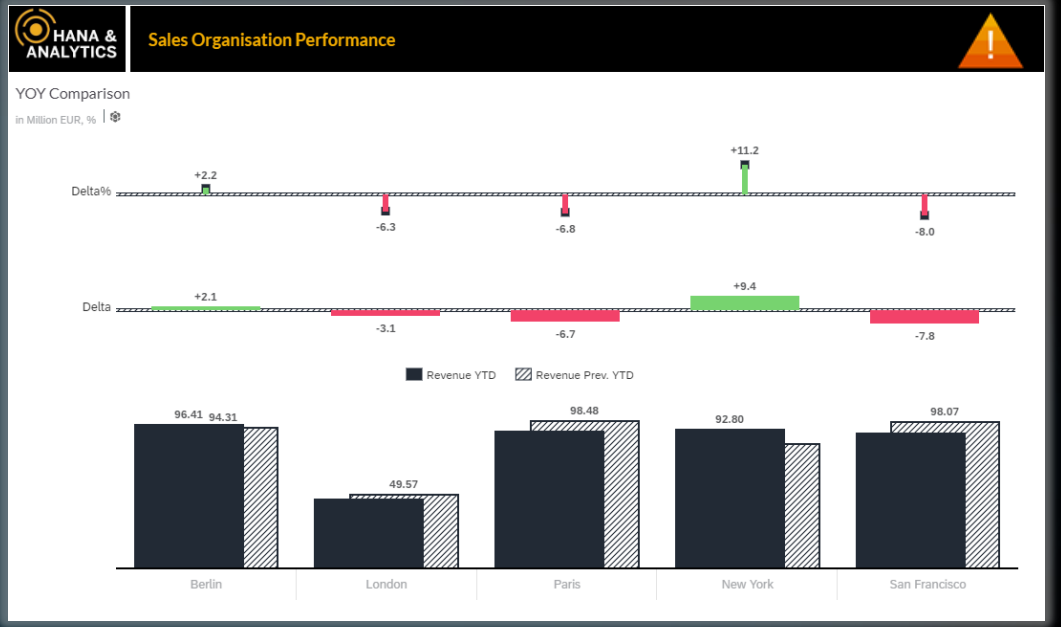
- Add a variance to your chart to compare the differences between versions (e.g. Actuals vs Forecast in an account-based model)
- Assign versions in the BW live model in SAC

Time-based

- Add a variance to your chart to compare the differences between periods (i.e. current vs previous period)

Prerequisites

- Please note that version- and time-based variance charts have different backend system pre-requisites, see SAP note 2715030 for more details
- Hint: You can define restricted measures (in the BW Query) and then use measure-based variances to meet respective business requirements with BW versions that do not support version- and time-based variances natively



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Geo Maps (Choropleth Layer)

Display BW live Query data in Geo Maps

Choropleth Layers

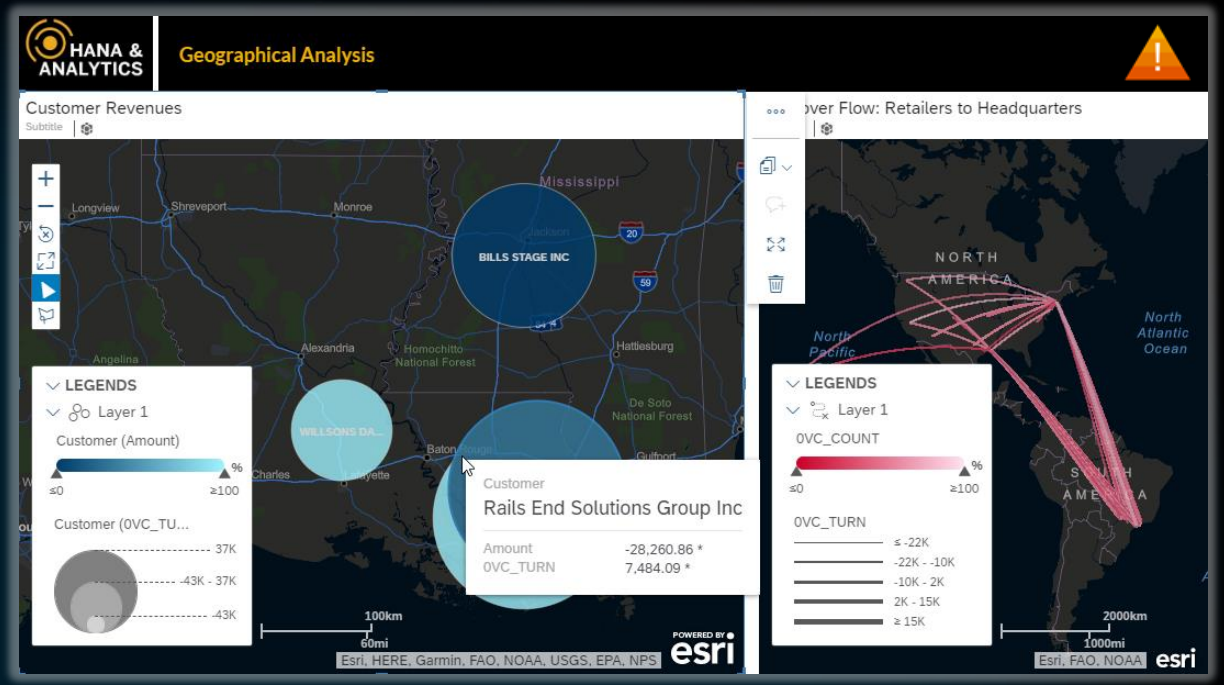
- Coloring of regions by measure values

Lifting of earlier Restrictions (now supported)

- Hierarchy drilling in bubble layer, color by dimension, support of default filter from Query, exit variables and text variables

Backend Pre-Requisites

- Requires BW/4HANA 2.0 or BW on HANA 7.50 SP16 , see SAP note 2715030 for more details



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Tuple Filter and Linked Analysis (With Hierarchies)

Support Linked Analysis with Multiple Dimensions

Hierarchy Support

- Tuple filters can now also contain selections on hierarchies
- Tuple filters with hierarchy selections enable linked analysis with hierarchies

Backend Pre-Requisites

- Requires BW/4HANA 2.0 or BW 7.50 SP16 on HANA, see SAP note 2715030 for more details

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SAP Analytics Cloud
Analytics Designer

Analytics Designer

Cloud first strategy

SAP is committed to delivering innovative analytics designer (for business intelligence, planning & predictive) in the Cloud. Consistent with this, our strategic direction for analytics design follows on and aligns with our broader Analytics strategy. Specifically:

State-of-the art Analytics Designer for professional users spanning across BI, Planning & Predictive

SAP Analytics Cloud

Customers requiring an on premise solution

Lumira Designer

- ***SAP Analytics Cloud is SAP's primary strategic app design solution moving forward.***
- ***The majority of new enhancements for application design will be delivered via SAP Analytics Cloud, with only selected continuous improvements in Lumira Designer***

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Analytics Designer| What it is

Professional design of centrally governable analytic content, ranging from dashboards via guided analytics to sophisticated planning and smart applications

What is an application?

- Applications range from simple dashboards to complex applications
- Applications expose custom logic based on scripting
- Applications are created by a few experts to be consumed by many

What is Analytics Designer?

- Rich set of capabilities for professional designers of analysis applications to meet sophisticated business requirements
- Dedicated development environment with advanced scripting capabilities
- Drive standardization of analytics content, create reusable UI elements and application logic (such as headers, footers, toolbars)
- Extending Applications via Custom Widgets and APIs

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Demo

Analytics Designer

Q2/2019

- Planning support (Part II): Provides scripting capability to trigger version management, publish, revert and version management history
- OData Calls:
  - OData function calls in the context of an App Design script
  - Programmatic access to OData
- Create story from widget
- Dynamic text enhancements
- Global variable enhancements
- Text input widget, slider and range slider widget
- Adding analytical applications to recently used list on home page
- Scripting value help enhancements
- API enhancements:
  - E.g getUserID, DataSource APIs, Navigate to APIs, Result Set APIs

Q3/2019

- Container widgets
  - Tab strips, panels,
- Theming
- Custom Widget Beta Program
- Data Analyzer
  - Direct query access with new Navigation panel from BW queries
- Bookmark support
- Geo map support
- Integrating Search to Insight with scripting access
- Translation of texts in applications
- Single Cell Planning
- BPC live Planning Sequence
- Browser Debugging
- Copy and paste technical components within outline
- Script refactoring capabilities
- Table Export to Excel, CSV

Future Direction

- Custom widgets with data access
- Dynamic layout : Dynamic adjustment of screen real-estate without re-arranging all elements
- Blending support
- Dynamic image with scripting access
- Application performance features
  - Lazy loading of data sources
  - Customizing query parallel execution etc.
- Mobile support
- Enterprise features
  - Composites as re-usable widget
  - Export to PDF
  - Templates
- Shared data sources
- Transient direct access to BW queries
- Navigation panel
- Digital Boardroom integration
- Datasource APIs

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SAP Analytics Cloud
Data Analyzer

Data Analyzer

Feature scope

- Predefined pivot table analysis which enables users to navigate and filter the data instantly, and to capture and retrieve specific analysis state (bookmark).
- Live BW query or Live HANA calculation view can be launched without the need of creating an SAC model.
- Full access for users secured by existing authorizations implemented in the back end.
- URL service API allows running the Data Analyzer via parametrized hyperlink from outside, e.g. landing pages like Portal or Launchpad.

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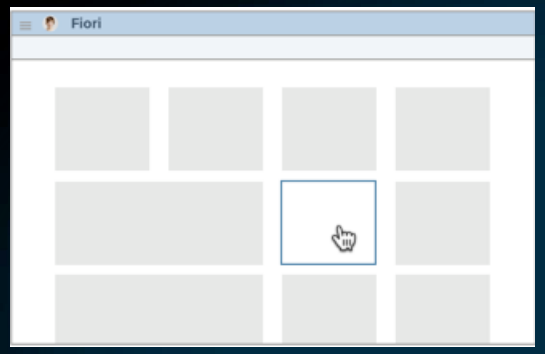
Data Analyzer

Scenarios / Entry Points

Scenario 1: “Start stand-alone”

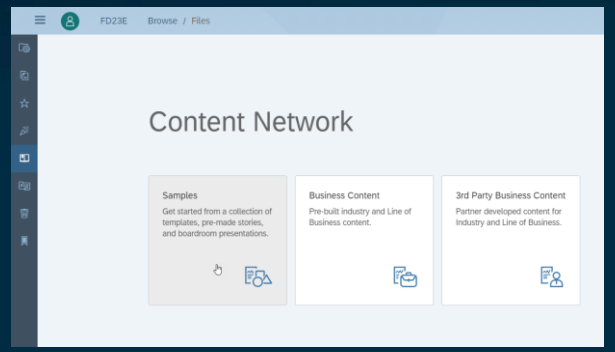
Launchpad / Portal

[URL parameter <system> + <query>]

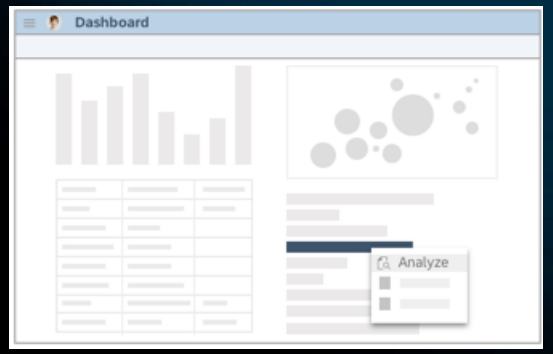


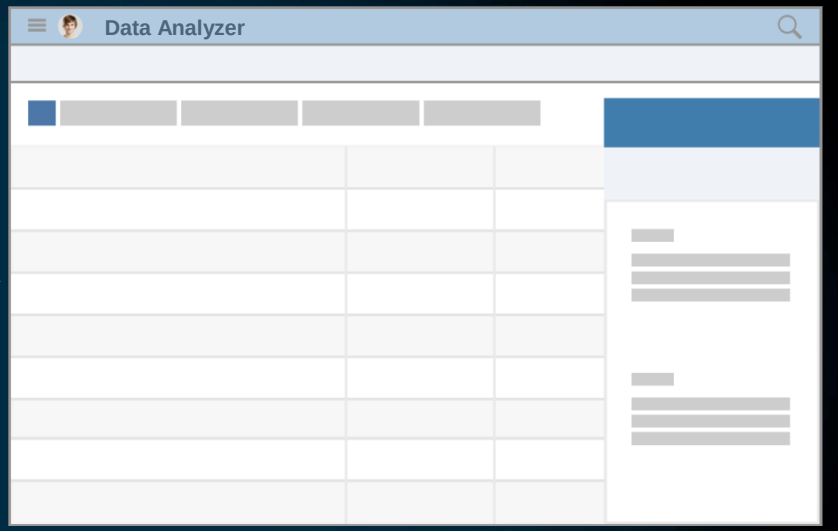
SAC

> File Repository > Content Network > Sample application



Scenario 2: “Embedded in dashboard”





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Demo

Data Analyzer in SAP Analytics Cloud

Product plan overview – key themes and capabilities

Product Plan

Q3/2019

- BW Live support
- Start stand-alone
  - From outside via hyperlink (parametrized URL)
  - From SAC File Repository > Content Network > Samples
- Data Display: Table
- Edit Prompts (variable prompts dialog)
- Context menu capabilities:
  - Sorting, Data presentation (ID / Description), Expand / Collapse Hierarchy Nodes
- Navigation Panel capabilities:
  - Add / remove dimensions / measures to rows/ columns via buttons inside
- Filterline
- Export CSV
- Export Excel (beta)
- Pause / Refresh

Q4/2019

- Enhanced Context menu capabilities
- Enhanced Navigation Panel capabilities
  - Drag & Drop inside
- Currency conversion
- Print to PDF
- Export Excel
- Bookmark, Share

Future Direction

- HANA Live support
- SAC model support
- Start embedded
  - Jump to out of a dashboard
- Enhanced Navigation Panel capabilities
  - Drag & Drop outside (into table)
  - Set / remove filter
- Save Variants (variable prompts dialog)
- Undo / Redo
- Data Display: Chart
- Custom adjustments (template)
- Add dynamic calculations
- Scheduling (precalculated as PDF)
- Last Data Update information

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Thank you

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Run Simple

Key links for more information
For customers and partners

Key links

- Road maps on sap.com — www.sap.com/roadmaps
- SAP Community Network — http://www.sdn.sap.com/
- SAP Innovation Discovery — http://www.sap.com/innovationdiscovery
- SAP Analytics Cloud Help — https://help.sap.com/doc/00f68c2e08b941f081002fd3691d86a7/release/en-US/index.html
- SAP Analytics Cloud (BW Support Matrix)
  - Live connection to BW — https://help.sap.com/doc/00f68c2e08b941f081002fd3691d86a7/release/en-US/ba7ee8dc6dcd4069b210ec712be52a31.html
  - Data import connection to BW — https://help.sap.com/doc/00f68c2e08b941f081002fd3691d86a7/release/en-US/780967ff44294c01b7f66ef837695f2b.html

Where to go to provide product feedback and ideas

- SAP Idea Place — https://ideas.sap.com
- Influence programs — http://service.sap.com/influence
- SAP User Groups — http://www.sapusergroups.com/

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