

SAP ANALYTICS CLOUD

Analytics Designer

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SENIOR SAP BI SOLUTION CONSULTANT



Summary

Design and implementation of large-scale enterprise data warehouse systems
Conception of information solutions, different technologies and industries since 2001
SAP BW experience since 2008 (from 3.5 on anyDB to 7.5 on HANA, BW/4HANA)
SAP HANA experience since 2014, HANA native and BW-HANA mixed modeling

Professional background

System architecture, BI system management, enterprise-wide reporting, implementation strategies, business requirement definition, introduction of BI systems, facilitator between business and IT functions

Frontend experience

- SAP Analytics Cloud: Modeler, Story Builder, Analytics Designer
- SAP Business Objects: Web Intelligence, Crystal Reports, Lumira Designer
- SAP Business Explorer: Query Designer, Web Application Design, Analyzer
- Microsoft Power BI on SAP BW/4HANA
- MicroStrategy Analytics on SAP BW on HANA & HANA native

Functional & industry expertise

Retail, aviation, automotive, healthcare, chemicals, telecommunication, education, public sector

Roles and responsibilities

Consultant: introduction of business solutions across entire organization
Team lead: coordination and management of project teams
Trainer: coaching of consultants and key user trainings

Education

Vienna University of Economics and Business – Business Information Systems, MSc
Vienna University of Technology – Computer Science Management, Mag.
Higher Technical Institute TGM Vienna – Industrial Engineering and Management, Ing.



AGENDA

SAP Analytics Cloud

Introduction

Story vs. Application

Connectivity

Model

Analytics Designer

Overview

Features

Performance

Dos and Don'ts

ZOCCER

Showcase

SAP ANALYTICS CLOUD (SAC)

SAP ANALYTICS CLOUD - INTRODUCTION

Strategic all in one solution

- Business Intelligence
- Planning
- Predictive
- Analytics Designer

for the intelligent enterprise

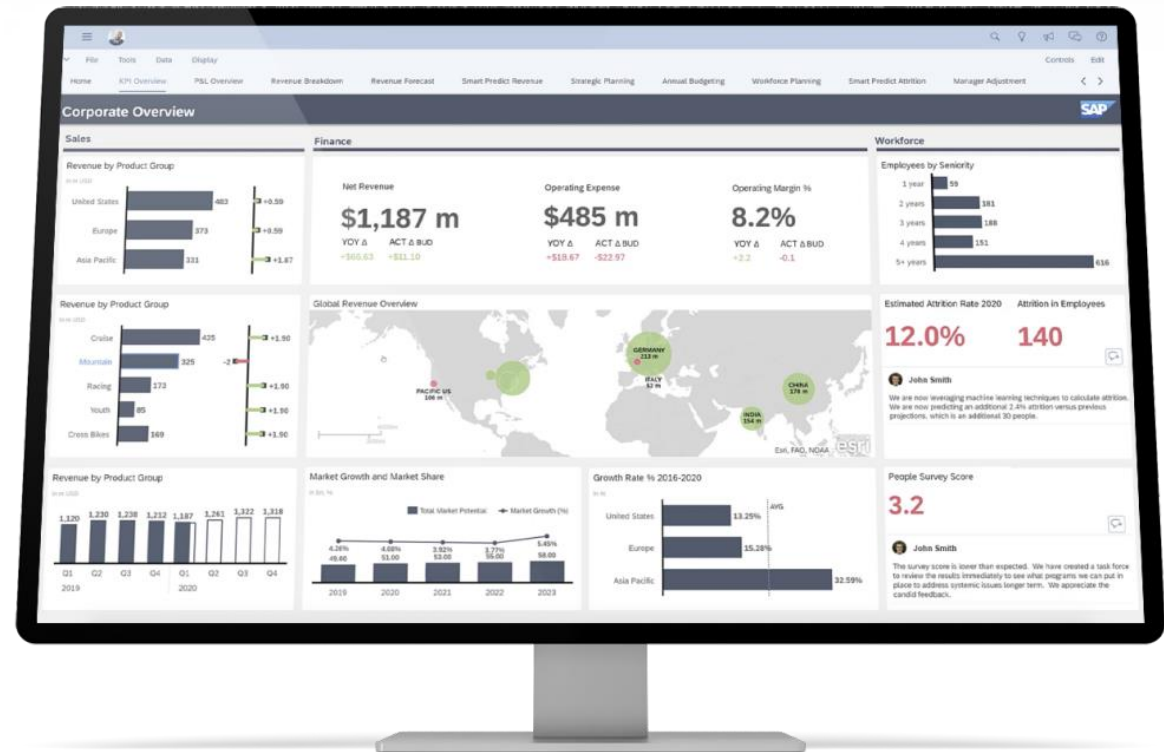
- end-to-end analytics
- self-service driven

provided as software-as-a-service

- connectivity
- raw data cleansing
- modelling and story experience
- administration and auditing
- collaboration
- mobile
- APIs (for third party integration)

to be consumed in

- browser, mobile app, Excel



SAP ANALYTICS CLOUD – COMPONENTS

Business Intelligence



Data Preparation
Enterprise Reporting
Data Visualization
Storytelling

Planning



Sharing
Simulation

Predictive



Forecasting
Automated Insights

Analytics Designer



Custom Apps
SDK Extensions

Digital Boardroom

Mobile

SAP Analytics Hub

SAP Analytics Cloud



On Premise



Hybrid



Cloud

SAP ANALYTICS CLOUD – STORY VS. APPLICATION

Story

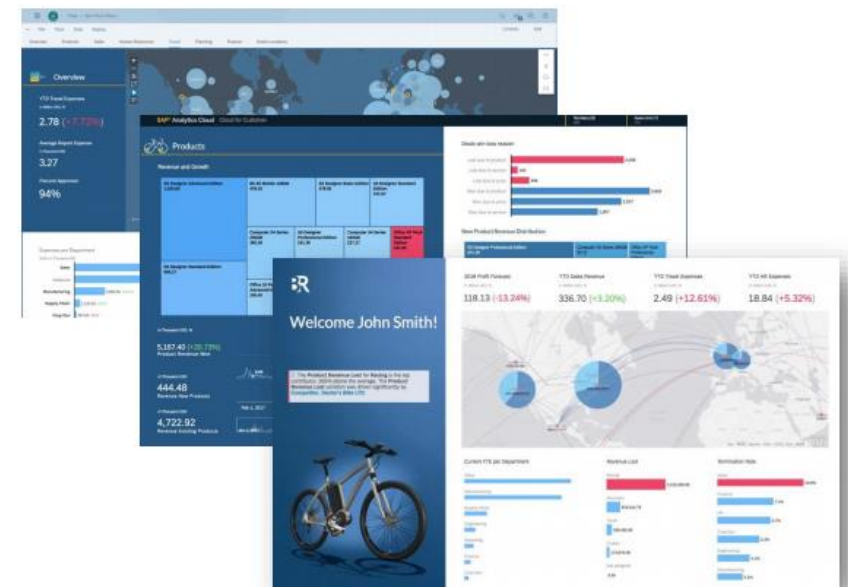
Tell the tale with multi-tab reports which include interactive charts and tables

- Key users can leverage predefined templates to quickly create reports
- Incorporate widgets like charts, tables, geo maps, images, text and embedded web pages
- Cross link charts and tables, and setup filters to easily synchronize and update all objects across the story

Analytic Application

Build professional looking, highly customized user interfaces e.g. for your planning solution

- Rich set of capabilities allow professional designers to construct anything from simple reporting dashboards to complex planning applications
- Drive workflow through scripted application logic
- Extend applications via custom widgets and APIs



SAP ANALYTICS CLOUD – CONNECTIVITY

There are two types of data connection...

Import connection

- Business users can model and prepare data
- Track and reverse data transformations
- Refresh data on demand or via schedule
- Persisted data including the metadata is encrypted

Live connection

- Leverage business metadata and existing security directly without additional modelling
- Data volume is processed in back-end system, no replication required
- Sensitive data stays entirely within corporate network, only metadata is stored
- Near real-time data access

SAP ANALYTICS CLOUD – CONNECTIVITY



Start with a blank model



Get data from a data source



Import a file from your computer



SAP BPC

SAP Business ByDesign Analytics

SAP BW (including BW/4HANA)

SAP Cloud for Customer

SAP Cloud for Customer Analytics

SAP Concur

SAP ERP

SAP Fieldglass

SAP HANA

SAP Integrated Business Planning

SAP S/4HANA

SAP SuccessFactors

SAP SuccessFactors Workforce An...

SAP Universe

Dataset

Dow Jones

Google BigQuery

Google Drive

OData Services

Qualtrics

Salesforce

SQL Databases

Amazon S3

Autotask CRM

Box

Close.io

Connectwise CRM REST Beta

Dropbox

Egnyte

Infusionsoft REST

Insightly

Microsoft Dynamics CRM

Microsoft OneDrive

Netsuite CRM 2018 Release 1

SFTP Element

SAP ANALYTICS CLOUD – MODEL

Models are the foundation on which stories or applications are built by providing a framework for data visualizations.

It's where the connection and provider is chosen, and data is prepared:

- Wrangling: clean data, separate or combine columns, fix typographical errors, assign measures and dimensions
- Enhancing: add geospatial and hierarchy information, create calculations, set units and currencies
- Sharing: share your data and assign different permissions, tell multiple stories with one model

Performance tips:

- Tailor the data to your needs already in source system
 - Optimize performance of your data provider, such as a BEx query
- For additional logic
 - Define calculations at model level to use processing power of the backend
 - Filter early, do calculations after aggregation, avoid complex formulas
 - Hide unnecessary dimensions and measures
- Use planning models only when required, as analytic models are faster

ANALYTICS DESIGNER

AKA APPLICATION DESIGN

ANALYTICS DESIGNER - OVERVIEW

Successor of Design Studio / Lumira Designer

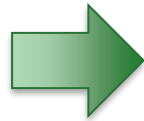
- Design environment to build applications or dashboards
- For BI, Planning, Predictive and App Design use cases
- Author, administer and consume within browser
- Application and Story share models and UI Artifacts
- Widgets act as building blocks, some can be reused in Stories
- Function-rich scripting editor
 - Code completion and value help (CTRL + Space)
 - Scripts are either tied to widget events or global script objects
 - Native JavaScript, but limited subset
 - Strict mode: enforces “secure” syntax e.g. variables need to be declared
 - Strongly and statically typed: variables cannot act as if the were different types, no automatic type casting
 - No external JavaScript libraries, but Math, Date, Number, Array, String available
- SDK extensions



ANALYTICS DESIGNER – FEATURE COMPARISON

Widgets in Lumira Designer vs. Analytics Designer vs. Story Builder

- Components (45)
- Adaptive Layout
- Button
- Chart
- Chart Feeding Panel
- Chart Property Editor
- Chart Type Picker
- Checkbox
- Checkbox Group
- Crosstab
- Date Field
- Dialog
- Dimension Filter
- Dropdown Box
- Feed List
- Filter Bar
- Filter Line
- Filter Panel
- Formatted Text View
- Grid Layout
- Grouped List
- Icon
- Image
- Input Field
- Link
- List Box
- Map
- Navigation Panel
- Pagebook
- Panel
- Popup
- Progress Indicator
- Radio Button Group
- Scorecard
- Scroll Container
- Segmented Button
- Shape
- Spreadsheet
- Story
- Switch
- Tabstrip
- Text
- Text Area
- Toggle Button
- Tree
- Visual Timer



Insert | Tools | Data | Display

- Panel
- Tab Strip
- Page Book
- Flow Panel
- Text
- Input Field
- Text Area
- Dropdown
- Checkbox Group
- Radio Button Group
- Button
- Slider
- Range Slider
- Filter Line
- Image
- Shape
- More Widgets >

- List Box
- Switch
- Geo Map
- Clock
- RSS Reader
- Web Page
- Value Driver Tree
- Data Action Trigger
- BPC Planning Sequence
- R Visualization
- Symbol



Insert | Tools

- Geo Map
- Image
- Shape
- Text
- Header
- Clock
- Comment Widget
- RSS Reader
- Web Page
- Value Driver Tree
- Data Action Trigger
- BPC Planning Sequence
- R Visualization
- Symbol

ANALYTICS DESIGNER – FEATURE COMPARISON

	Lumira Designer	Analytics Designer
Source systems	BW, HANA, Universes (others only via SDK)	All sources offered by SAC
Data source	Flexible usage	Bound to specific widget
Dropdown, Radio Button,...	Certain widgets could be bound directly to data source	Items need to be populated manually via scripting
Widgets	Higher number, different styles	Fewer widgets but some quite interesting e.g. „R Visualization“
Scripting	Executed on the “Analysis Application Design Service”	Native browser JavaScript engine execution
Integration	Jump to BW and BO applications (others via SDK)	Web based communication to all kinds of applications
Infrastructure	Manual client and server component updates	Always up-to-date (Cloud, bi-weekly release waves)

ANALYTICS DESIGNER – PERFORMANCE ASPECTS

There are many factors which can impact performance

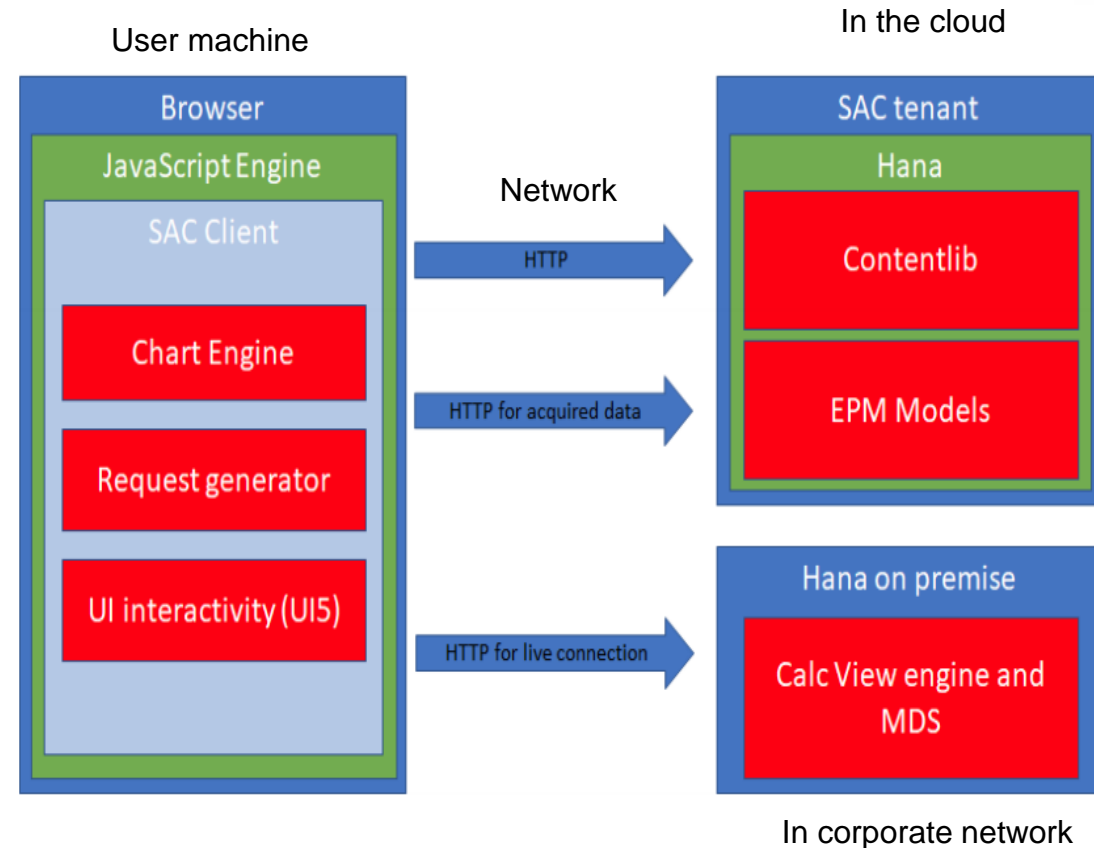
- Local PC's resources (CPU, memory)
- Corporate network (bandwidth)
- Back-end sizing (especially on live data)
- Model / Story / Application design
- Expensive calculations
- Browser

Keep in mind that Chrome has a limit of 6 concurrent connections per host name

- This essentially means that it can handle only 6 widget calls at the same time
- SAP recommends 8 to 10 graphs with a low number of data points

Analyze performance

- Chrome DevTools (F12)
- Provided monitoring models



ANALYTICS DESIGNER - DOS AND DON'TS

Limit result sets through filters or parameters

- Prefer charts to tables, as they pull less data from backend
- Use Explorer mode (=table view) to analyze on detailed level
- Use aggregated state for initial view, drill to details on demand only

Limit number of widgets, reuse if possible (place in header, use moveWidget method)

- Split large content into multiple tabs or separate Stories / Applications
- Rule of thumb: users should not scroll too much to consume content
- Use hyperlinks to jump to a different (details) page, Story, Application or external website

Less is more

- Only write necessary program code
- Leverage provided features e.g. Flow Panel widget can replace manual scripting
- Keep images small, SVG or PNG files are better than JPG file

Activate technical optimizations

- Query batching: Queries of the same data model may be batched together, to reduce expensive browser requests. Only supported in Chrome browser in non incognito mode.
- Lazy loading: initially only load content from visible view port, everything else in background
- Once a new SAC wave was released, save your application again

ANALYTICS DESIGNER - ISSUES

...or what works not that great (yet)

Updates can potentially break reports

- SAC release: layout changes e.g. resized widgets, layer behavior
- Chrome release: cookie handling suddenly more strict

Missing features

- Technical key figure names from BW Query are ignored with BW or BPC live connection (works for HANA connection only)
- BpcPlanningSequence widget has no method to execute via scripting
- No general CreateComponent method (like in Lumira Designer)
- Unable to remove obsolete images for good. Once added, they stay (in background) within the application.
- Mobile app supports currently only Stories but not Applications

Personal Wishlist

- HTML code within text widget, for formatting and using hyperlinks (to email as well)
- More formatting options e.g. centered text in input fields, rotate text in tables
- Directly edit application source code (xml?)

ZOCCER

Z PARTNER



What?

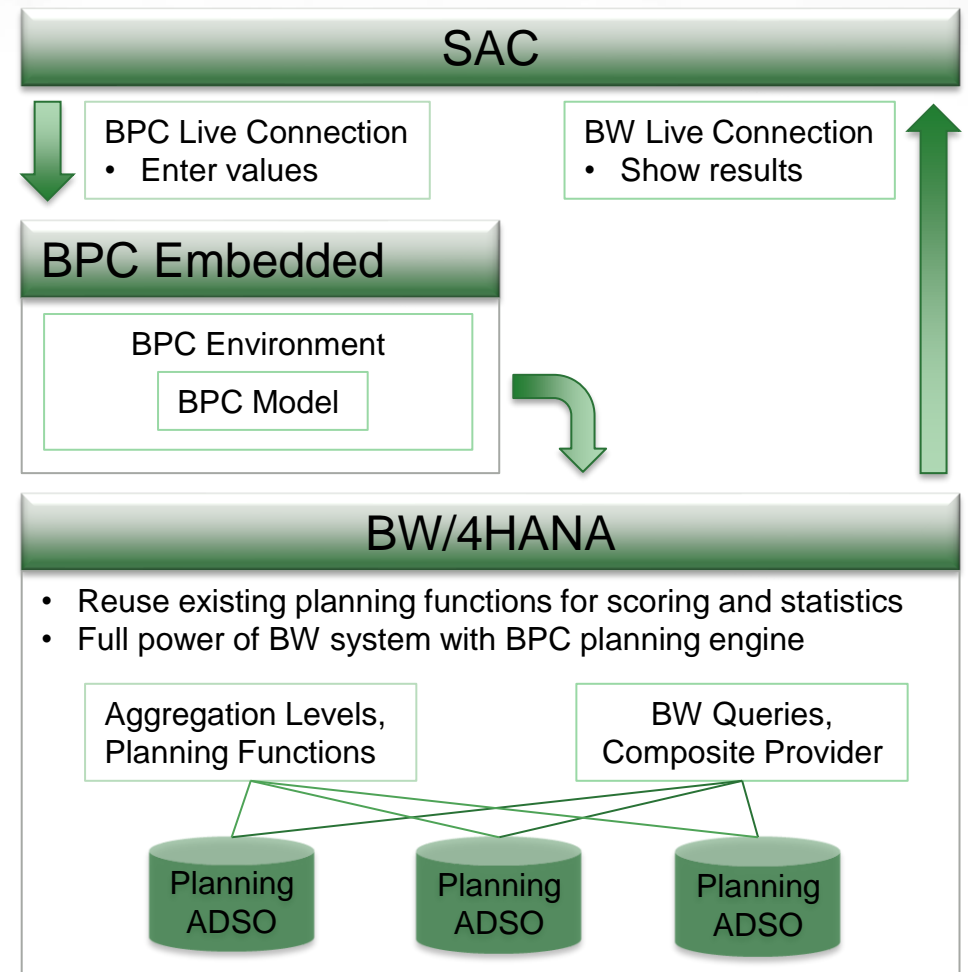
- Soccer championship bet game
- Built by ZPARTNER some years ago
- Based on latest SAP analytics technologies
 - BW 7.x on anyDB to BW/4HANA
 - IP to BPCE
 - Design Studio to Lumira to SAC

Why?

- Create something fun with SAP for once
- Internal learning experience
- Migration path test
- European Championship (2021?)

Who?

- Showcase for customers & friends
- Please contact us to try yourself:
zoccer@zpartner.eu



KEY POINTS TO TAKE HOME

- SAP Analytics Cloud is THE strategic analytics tool from SAP
- It's a SaaS solution and comes with all the typical pros and cons of a cloud product
 - It is relatively quick to get started, no big investments needed
 - It provides a powerful self-service-system which is easy to handle for everyone
- Main components are Business Intelligence (Story) and Analytics Designer (Application)
 - Some features are still missing, however the innovation speed is quite high
 - A new wave with added functionality is released every second week
- Personal assessment: it's not clear if the all-in-one approach will be successful going forward. Potential risk that the tool gets too big. However it's the go-to tool right now.



REFERENCES

Product page

<https://www.sap.com/products/cloud-analytics>

Release notes

https://www.sapanalytics.cloud/product_updates

Roadmap

<https://roadmaps.sap.com/board?PRODUCT=67838200100800006884>

Help

https://help.sap.com/viewer/product/SAP_ANALYTICS_CLOUD

Limitations

<https://wiki.scn.sap.com/wiki/display/BOC/SAP+Analytics+Cloud+Support+Matrix>

Analytics Designer Handbook

<https://www.sapanalytics.cloud/analytics-designer-handbook/>

Analytics Designer API

<https://help.sap.com/doc/958d4c11261f42e992e8d01a4c0dde25/2020.20/en-US/index.html>

KEEP IN TOUCH

THANKS FOR YOUR ATTENTION



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