



## Best Practices for Dashboard Design with SAP BusinessObjects Design Studio

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February 2015



# Best Practices for SAP Design Studio

- Data Sources
  - Only load those data sources at start-up, that are really needed for the initial screen
  - In case of tabs / pagebooks, load data sources per “view”
  - Add logic to not load the data twice
  - Add “Background processing” to your application
    - Screens become visible quicker, while data sources are still loading
- Note:
  - SAP BusinessObjects Design Studio is loading the data source sequentially (not in parallel)
  - Parallel Loading of BEx Queries is planned for the release 1.5 of SAP Design Studio

- BEx Query Design
  - For large sets of key figures, use the option - “Use Selection of Structure Members” in transaction RSRT (Query Monitor) as part of the Query Properties
  - Query Read Mode should be configured to read data while navigate (Transaction RSRT, Query Monitor)
  - Leverage the capabilities of the Restricted Key and Calculated Key Figures
  - Leverage SAP Variables as part of the BEx Query (see details later on !)
    - Can be shared across queries, minimizing development downstream
    - List of Values are being generated automatically
  - For large data volumes, ensure that you configure the “safety belt” properly (see SAP Note 1127156)

- **Display Attributes**
  - As part of the definition of Display Attributes in SAP NetWeaver BW it is also possible to configure if the Display Attribute should be displayed as part of the F4 Help / List of Values for a BEx Variable.
  - As large list of values can consume a lot memory, you should consider carefully if those Display Attributes are really needed as part of the list of values and in case they are not needed you should remove them from the list of value by changing the configuration in SAP NetWeaver BW.
- **Additional Option:**
  - Starting with SAP NetWeaver BW 7.01 Support Package 09 / SAP NetWeaver BW 7.30 Support Package 3 customers can use the BAdI RSR\_VARIABLE\_F4\_RESTRICT\_BADI to use a set of criteria to restrict the list of members for an input screen. For more information, see F1 help for this BAdI (transaction SE18, enhancement spot RSR\_VARIABLE\_F4\_RESTRICT).
  - See Note 1416952

- Variables vs Filter
  - Design Studio 1.3+ does automatically merge all variables
  - Changes to the “variables” will impact all queries that contain variables (also those datasources that are not using the involved variable)
  - Use “On Variable Initialization” and not “On Startup” to configure defaults (avoiding second initialization)
- There are three options to filter data (ordered according to performance impact – High to Low)
  1. setVariable
  2. setFilter
  3. setDataSelection

- Design Studio Sizing
  - Follow the standard SAP BusinessObjects BI 4.x sizing details ([www.sap.com/bisizing](http://www.sap.com/bisizing))
  - Consider allocating a separate APS Server for SAP Design Studio
  - Ensure the DSL Bridge is sized correct (“Memory hungry”)
  - Make sure the session parameters for Design Studio are set correct (default is 15)
  - Design Studio APS Heap Size
    - Recommendation : 20 – 25 Users / 8 GB, but larger apps require adjustments
  - See SAP note 1177020 for details
- Enabling JavaScript Compression to Enhance BI Platform 4.1 Performance
  - See SAP note 1931691 for details
- How to measure performance
  - URL Parameter **&PROFILING=X**

SCN Blog:

<http://scn.sap.com/community/businessobjects-design-studio/blog/2014/10/31/why-sizing-matters-for-sap-design-studio-performance>

<http://scn.sap.com/community/businessobjects-design-studio/blog/2013/12/08/design-studio-tips-and-tricks-measuring-performance>

- Design Studio Client Customization
  - Setting JVM Mode to “server”
  - Memory allocation

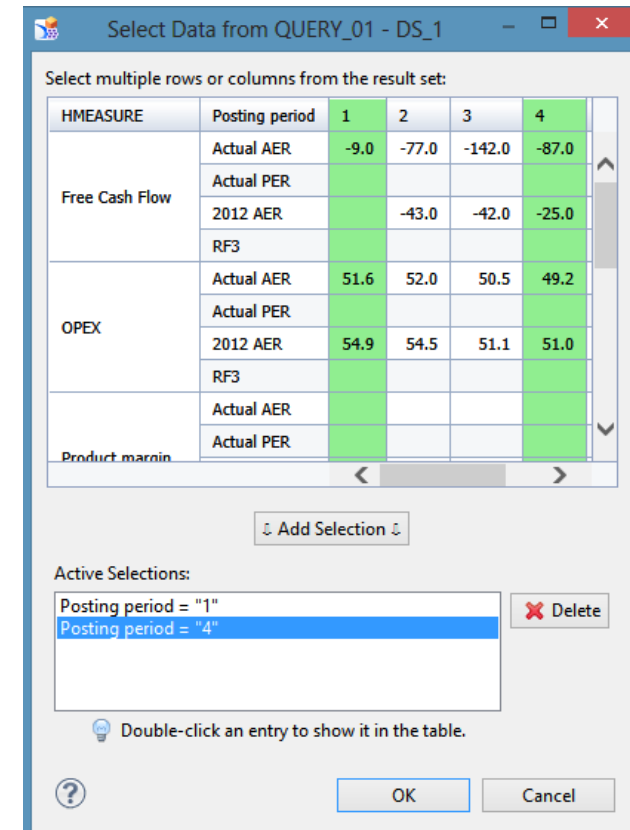
<http://visualbi.com/blogs/design-studio/sap-design-studio-client-tool-customization-part-01/>

<http://visualbi.com/blogs/design-studio/sap-design-studio-client-tool-customization-part-02/>

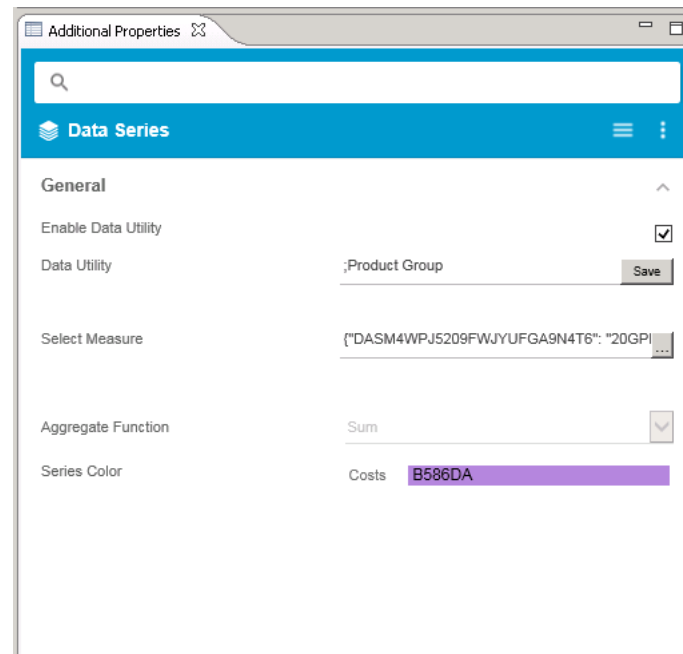
<http://scn.sap.com/community/businessobjects-design-studio/blog/2014/11/26/design-studio-14-client-tools--first-view>



- Using data selection feature for charts to reduce the number of data sources in your application.
- Select Dimensions / Key Figures to display in different charts via UI or Scripting API to reduce the number of required data sources



- SAP Design Studio Extensions – Data Utility
  - Allows to select dimensions and measures for a specific chart
  - Gives the option to select a single data source for several charts



# Best Practices for Dashboard Design with SAP BusinessObjects Design Studio

## Performance – Design Studio Extensions (DSX) Data Utility



**1. Data Source**

Initial View of QUERY\_SIMPLE\_DS\_1

Product Group	Product Category	Costs	Net Value
Cameras	Digital Compact Cameras	11,009,006,769.68	17,133,238,996.00
	Digital SLR	29,680,072,890.24	38,475,450,890.00
Cell Phone Accessories	Cell Phone Cases	1,048,096,056.94	1,365,909,732.00
	Handfree Sets	2,186,930,190.43	3,536,516,231.00
Cell Phones	Android Phones	6,744,092,178.39	10,559,843,351.00
	Apple iOS	4,741,911,048.60	6,671,621,835.00
	Blackberry OS	4,112,430,753.99	6,686,929,288.00
	Windows Phone	1,284,698,330.50	1,993,758,640.00
Laptops	Laptop	15,998,543,838.79	28,435,904,042.00
	Mac Book	30,078,872,442.83	39,051,021,822.00
MP3 & Headphones	Headphones	2,355,009,959.01	2,648,389,467.00
	MP3 Player	9,230,458,259.90	12,556,351,740.00
TV	LCD TV	41,580,891,221.30	58,118,196,852.00
	Plasma TV	61,427,130,113.57	81,684,420,539.00

**2. Select Dimension(s)**

Columns: (Empty)

Rows: Product Group, Product Category

Preview

**2. Select Measure(s)**

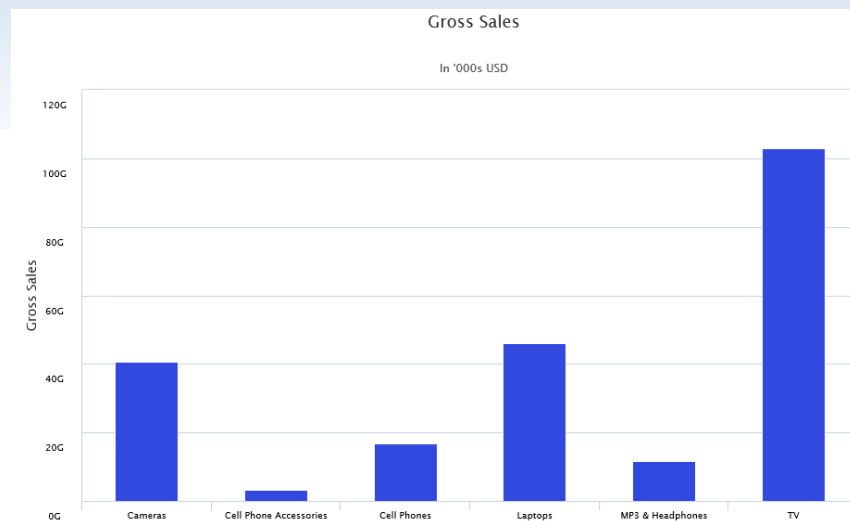
Select Data from QUERY\_SIMPLE\_DS\_1

Product Group	Product Category	Costs	Net Value	Open order quantity	Open Order Value	Order Quantity
Cameras	Digital Compact Cameras	11,009,006,769.68	17,133,238,996.00	3,020,575	1,156,344,825.00	44,745,554
	Digital SLR	29,680,072,890.24	38,475,450,890.00	3,771,782	2,597,950,762.00	55,851,810
Cell Phone Accessories	Cell Phone Cases	1,048,096,056.94	1,365,909,732.00	3,018,638	92,876,094.00	44,777,116
	Handfree Sets	2,186,930,190.43	3,536,516,231.00	3,015,123	238,136,777.00	44,759,369
Cell Phones	Android Phones	6,744,092,178.39	10,559,843,351.00	3,735,894	713,682,156.00	55,878,099
	Apple iOS	4,741,911,048.60	6,671,621,835.00	2,268,669	451,268,281.00	33,528,915
	Blackberry OS	4,112,430,753.99	6,686,929,288.00	1,514,041	452,488,289.00	22,364,312
	Windows Phone	1,284,698,330.50	1,993,758,640.00	1,517,252	135,022,068.00	22,400,660
Laptops	Laptop	15,998,543,838.79	28,435,904,042.00	3,018,867	1,920,876,383.00	44,682,658
	Mac Book	30,078,872,442.83	39,051,021,822.00	3,766,224	2,631,897,076.00	55,864,978
MP3 & Headphones	Headphones	2,355,009,959.01	2,648,389,467.00	2,266,109	178,933,441.00	33,529,913
	MP3 Player	9,230,458,259.90	12,556,351,740.00	5,275,278	646,961,252.00	78,256,340
TV	LCD TV	41,580,891,221.30	58,118,196,852.00	4,530,822	3,918,326,878.00	67,138,648

1. Data Source

2. Select Dimension(s)

2. Select Measure(s)



- On Variable Initialization
  - Use this event to set values for variables
- On Background Processing
  - Use this event to “chain” the loading of data sources
  - Can also be used to populate values for components that are not visible initially. For example a listbox for a customer selection on “Tab 2” when “Tab 1” is the initial view

### Order of items

1. Initialize Data sources
2. On Variable Initialization
3. Prompt dialog (mandatory variables without values)
4. Initialize Application
5. On Startup
6. Rendering of components
7. On Background Processing

- Important SAP Notes for SAP Design Studio
  - 1894594 - Design Studio - Support Note for NetWeaver Add-On
  - 1773751 - Design Studio - Support Note for Client
  - 1963416 - Simplified example for problem analysis
  - 1931691 - Performance hints for Design Studio applications
  - 1894504 - Design Studio - Support Note for BIP Add-On
  - 1177020 - SAP BusinessObjects Design Studio - Sizing Information
  - 1983117 - Design Studio - Support Note for DSL with BIP Add-On
  - 1760372 - SAP BusinessObjects Design Studio - Release Schedule



# Thank You

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