SAP BW & Cubeware

Zugriff von Cubeware **Cockpit** und Cubeware **Importer** auf **SAP BW** Daten

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Agenda

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- Definitionen & Big Picture
- Live Demo
- Voraussetzungen (OLEDB for OLAP Driver)
- Einrichtung (Cubeware Cockpit)

Definition – **SAP BW** (what version) **?**

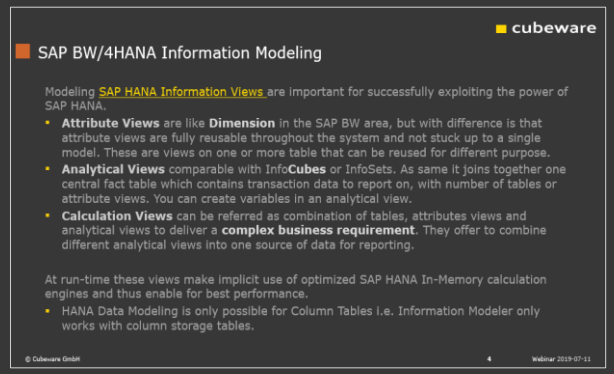
1. "classic" SAP BW

   SAP: "In order to simplify naming, since release 7.4, SAP NetWeaver Business Warehouse has been renamed to SAP Business Warehouse (SAP BW)":

SAP BW	7.01	Oct-2008
SAP BW	7.02	Aug-2009
SAP BW	7.3	Nov-2010
SAP BW	7.31	Aug-2011
SAP BW	7.4	May-2013
SAP BW	7.5	Oct-2015

2. SAP BW on (embeded) HANA (same as "classic" BW, but with HANA Database)
3. SAP BW/4HANA: The Next-Generation Business Warehouse
   - new BW/4HANA Information Modeling
     - "logical" DWH: Attribute Views, Analytic Views, Calculation Views
   - new tool: Web IDE for HANA (HANA Studio)

see Cubeware Whitepaper "SAP BW & Cubeware" (free download)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SAP BW/4HANA Information Modeling

Modeling SAP HANA Information Views are important for successfully exploiting the power of SAP HANA.

- **Attribute Views** are like **Dimension** in the SAP BW area, but with difference is that attribute views are fully reusable throughout the system and not stuck up to a single model. These are views on one or more table that can be reused for different purpose.
- **Analytical Views** comparable with Info**Cubes** or InfoSets. As same it joins together one central fact table which contains transaction data to report on, with number of tables or attribute views. You can create variables in an analytical view.
- **Calculation Views** can be referred as combination of tables, attributes views and analytical views to deliver a **complex business requirement**. They offer to combine different analytical views into one source of data for reporting.

At run-time these views make implicit use of optimized SAP HANA In-Memory calculation engines and thus enable for best performance.

- HANA Data Modeling is only possible for Column Tables i.e. Information Modeler only works with column storage tables.

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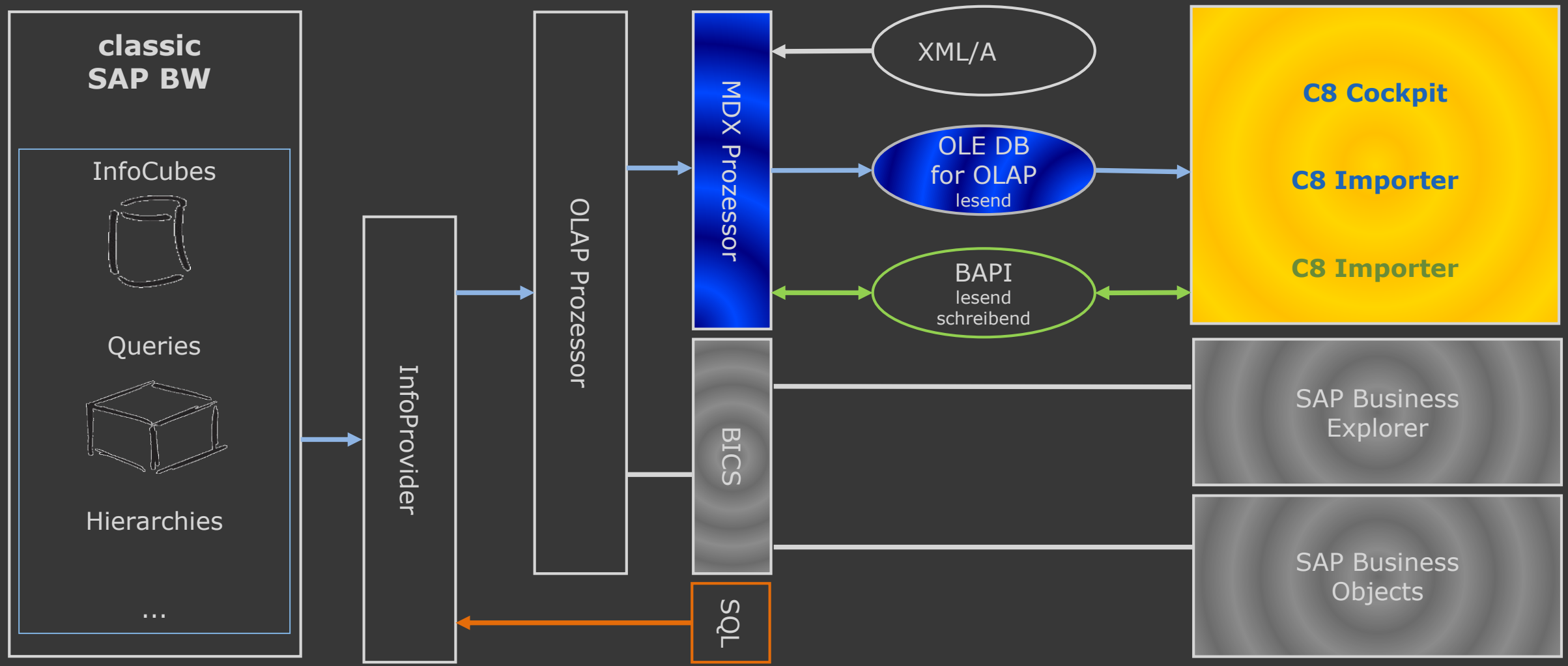
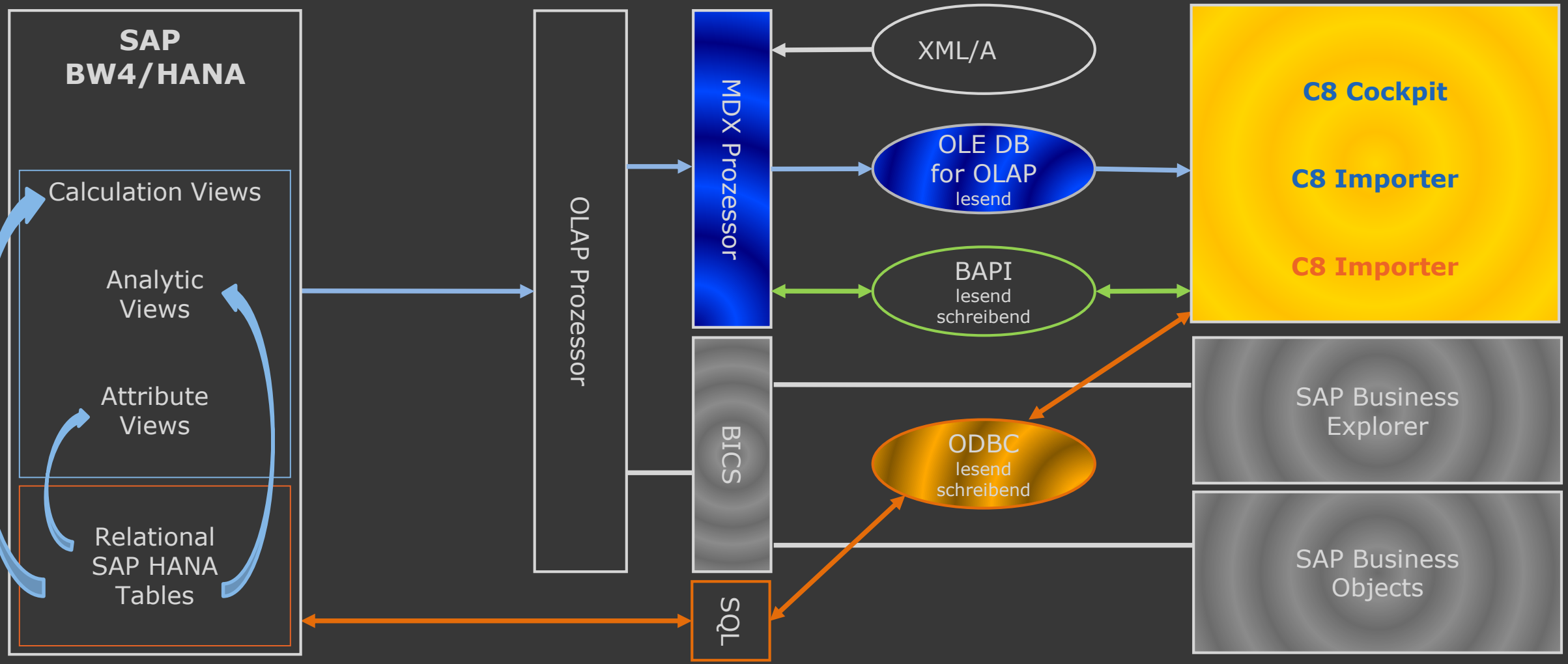
Zugriff auf „classic“ SAP BW (ab Cubeware Release 9.1)



Zugriff auf **SAP BW/4 HANA** (ab Cubeware Release 9.1)



OLEDB for OLAP: BW Object mapping

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„classic" SAP BW Objects

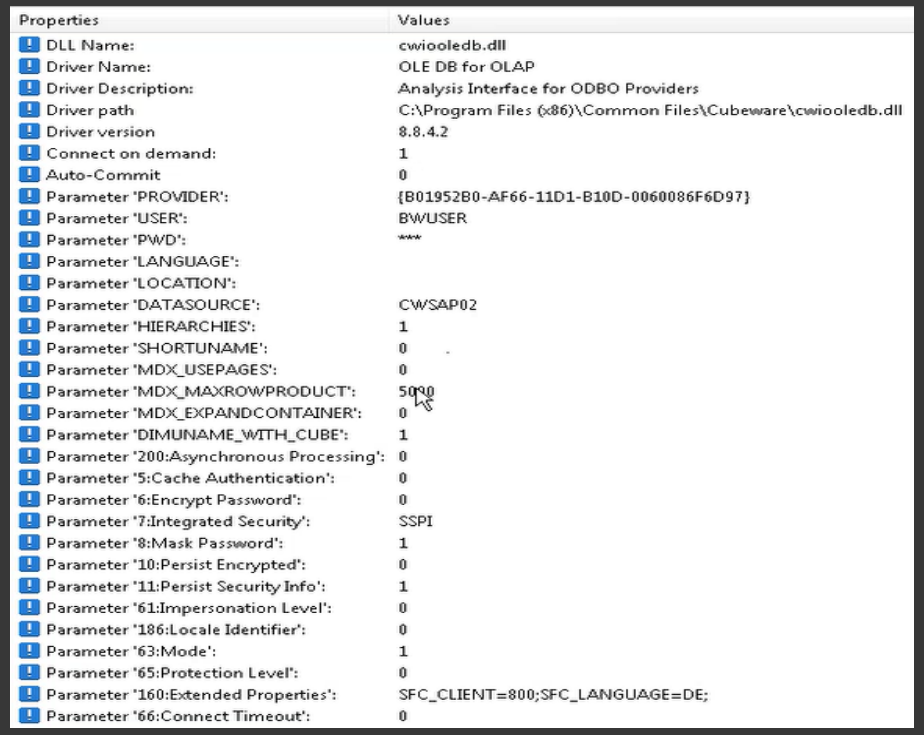
- InfoCubes
- Not supported
- Queries
- Characteristics
- Hierarchies
- Numbered Levels
- Characteristic Values
- Display Attributes

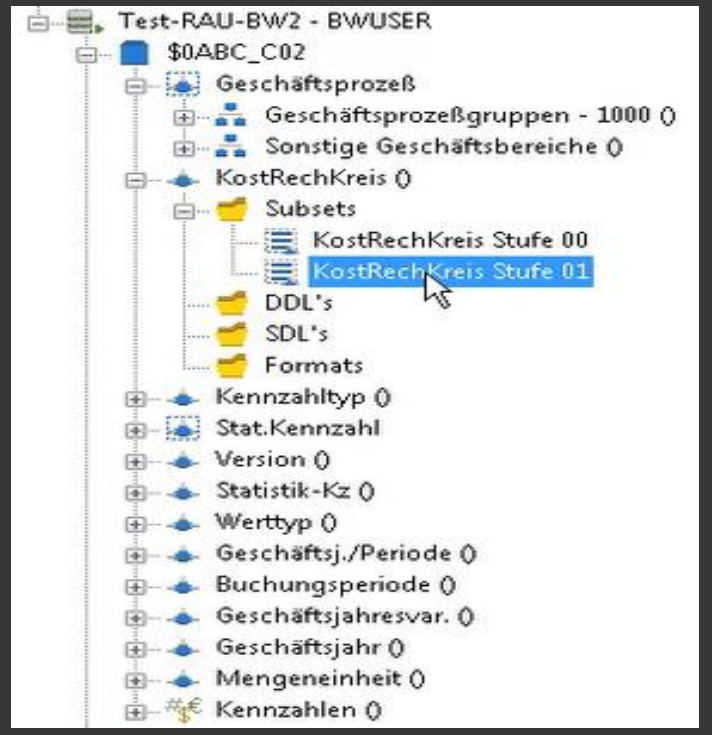
OLE DB for OLAP (ODBO) objects

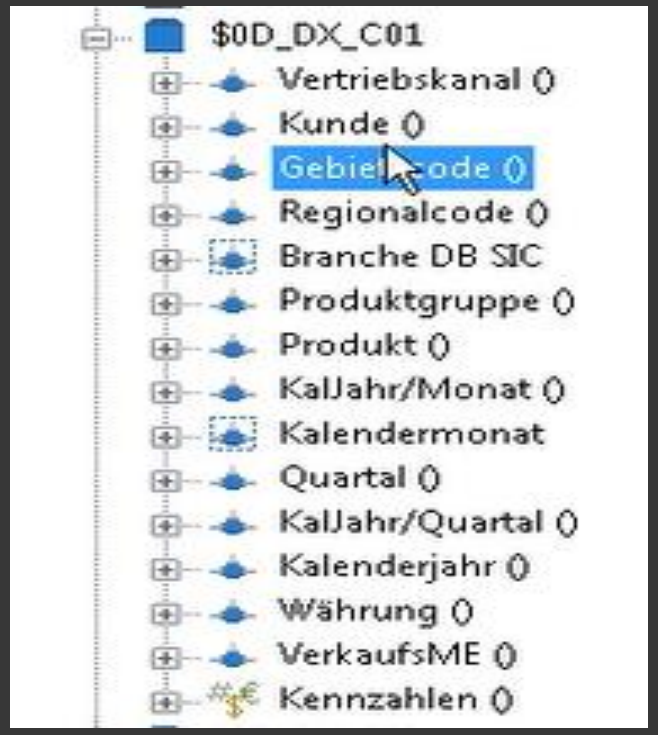
- Catalogs
- Schema
- Cubes
- Dimensions
- Hierarchies
- Levels
- Members
- Properties

Zugriff mit C8 Cockpit

- SAP BW Metadaten werden für alle definierten SAP BW Queries / InfoProvider($) ausgelesen und im Cockpit gespeichert. (Statusleiste beobachten!)
- Somit können sämtliche Funktionalitäten von C8 Cockpit wie in einem „Microsoft SSAS Cube“ genutzt werden (inkl. MDX-Container, MDX-Dataview, …).
- Im SAP BW angegebene Sprachdefinitionen werden mit der Cockpit-Anmeldungssprache automatisch übernommen.







Live Demo: Table (with CUBE-DataView)

Start | BW2-$0D_DX_C01

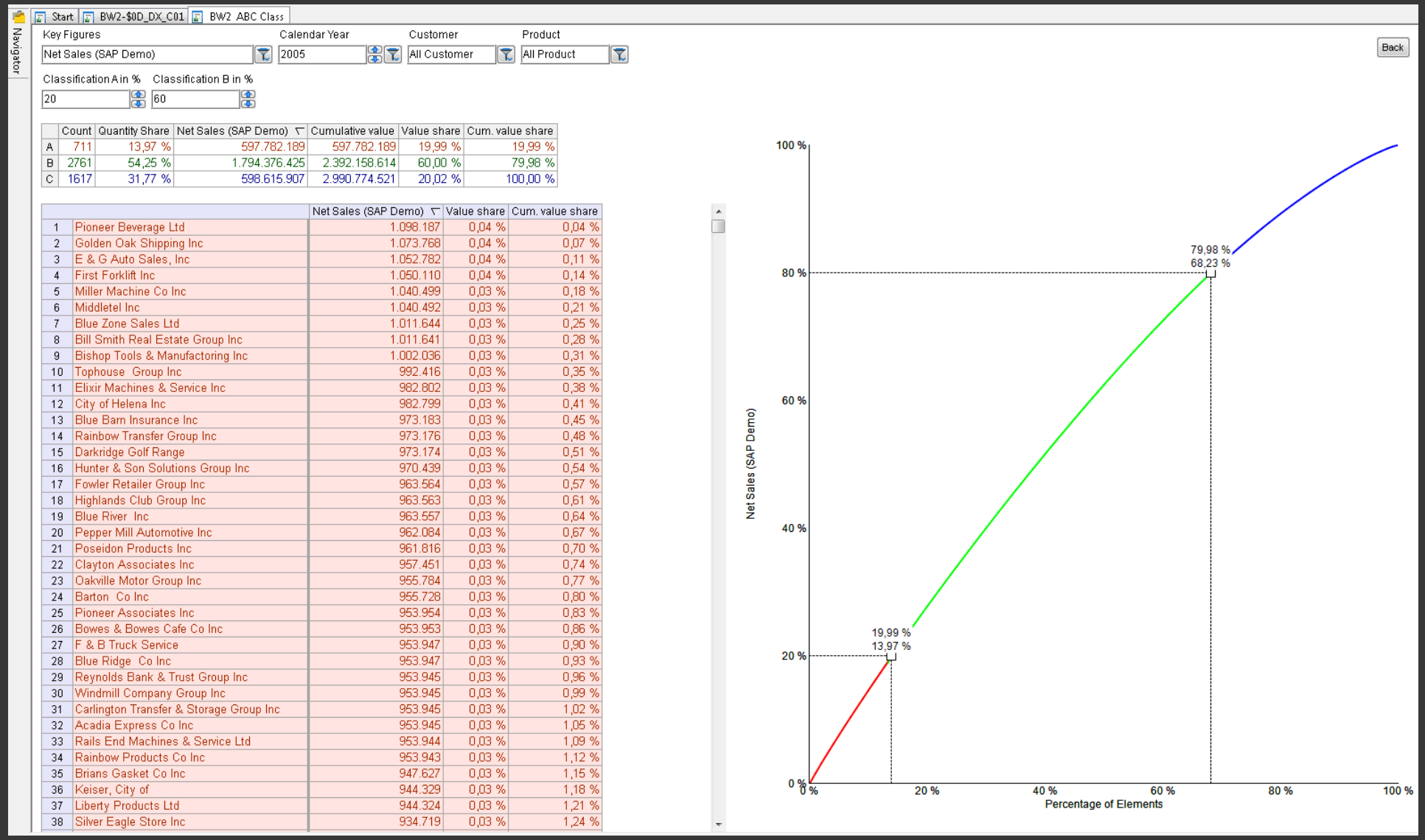
Navigator

Currency	Key Figures	Calendar Year	Quarter
US Dollar	Billed Quantity (SAP De...	2005	All Quarter

Branche	Distribution Channel	Region Code	Area Code	Product group
SIC Hierarchy	All Distribution ...	All Region Code	All Area Code	All Product group

		US Dollar							
		Billed Quantity (SAP Demo)				Net Sales (SAP Demo)			
		2005	2004	***Δ PY***	**All Calendar Year**	**2005**	2004	***Δ PY***	**All Calendar Year**
	SIC Hierarchy	686.107.723	823.354.078	-137.246.355	1.509.461.801	2.990.774.521	2.942.481.699	48.292.822	5.933.256.220
	Agriculture, forestry and fishing	13.218.270	16.324.520	-3.106.250	29.542.790	57.397.200	57.035.243	361.957	114.432.443
	Mining	8.066.440	9.858.594	-1.792.154	17.925.034	36.531.683	35.809.129	722.554	72.340.812
	Construction	31.285.721	38.263.123	-6.977.402	69.548.844	138.261.237	137.042.289	1.218.948	275.303.526
	Manufacturing	181.360.530	212.978.103	-31.617.573	394.338.633	799.637.813	777.779.819	21.857.994	1.577.417.632
	Transportation, comms, electric, gas and sanitary	38.036.427	45.264.179	-7.227.752	83.300.606	166.335.371	162.734.042	3.601.329	329.069.413
	Wholesale	93.674.140	110.090.559	-16.416.419	203.764.699	402.855.467	393.682.173	9.173.294	796.537.640
	Retail	116.486.191	141.585.852	-25.099.661	258.072.043	504.175.186	499.782.260	4.392.926	1.003.957.446
	Finance, Insurance and real estate	44.803.994	54.864.615	-10.060.621	99.668.609	196.200.088	194.403.542	1.796.546	390.603.630
All Quarter	**Services**	135.712.678	165.306.199	-29.593.521	301.018.877	587.753.978	582.538.263	5.215.715	1.170.292.241
	Public Administration	23.463.332	28.818.334	-5.355.002	52.281.666	101.626.498	101.674.939	-48.441	203.301.437
	Executive, legislative, and general government, ex	10.668.061	13.058.632	-2.390.571	23.726.693	45.225.848	45.312.339	-86.491	90.538.187
	Justice, public order and safety	4.792.810	5.839.165	-1.046.355	10.631.975	21.445.608	21.239.965	205.643	42.685.573
	Administration of human resource programs	4.009.358	5.025.378	-1.016.020	9.034.736	17.028.370	17.450.758	-422.388	34.479.128
	Administration of enviromental quality and housing	2.360.667	2.854.725	-494.058	5.215.392	10.975.700	10.742.643	233.057	21.718.343
	Administration of economic programs	1.094.388	1.373.637	-279.249	2.468.025	4.548.579	4.555.255	-6.676	9.103.834
	National security and international affairs	538.048	666.797	-128.749	1.204.845	2.402.393	2.373.979	28.414	4.776.372
	National security	445.880	568.778	-122.898	1.014.658	1.966.482	1.983.614	-17.132	3.950.096
	International affairs	92.168	98.019	-5.851	190.187	435.911	390.365	45.546	826.276

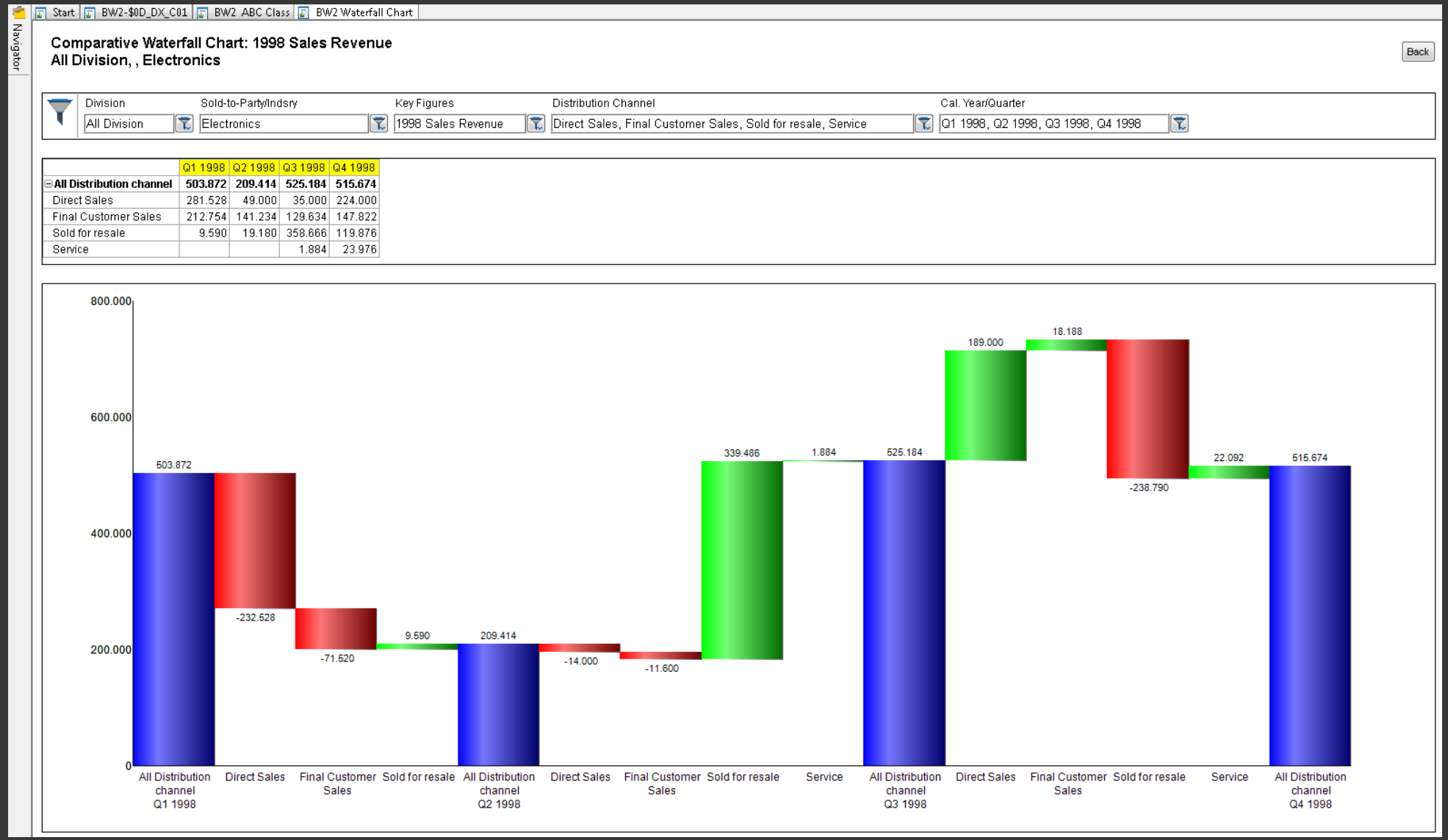
Live Demo: ABC Classification



	Count	Quantity Share	Net Sales (SAP Demo)	Cumulative value	Value share	Cum. value share
A	711	13,97 %	597.782.189	597.782.189	19,99 %	19,99 %
B	2761	54,25 %	1.794.376.425	2.392.158.614	60,00 %	79,98 %
C	1617	31,77 %	598.615.907	2.990.774.521	20,02 %	100,00 %

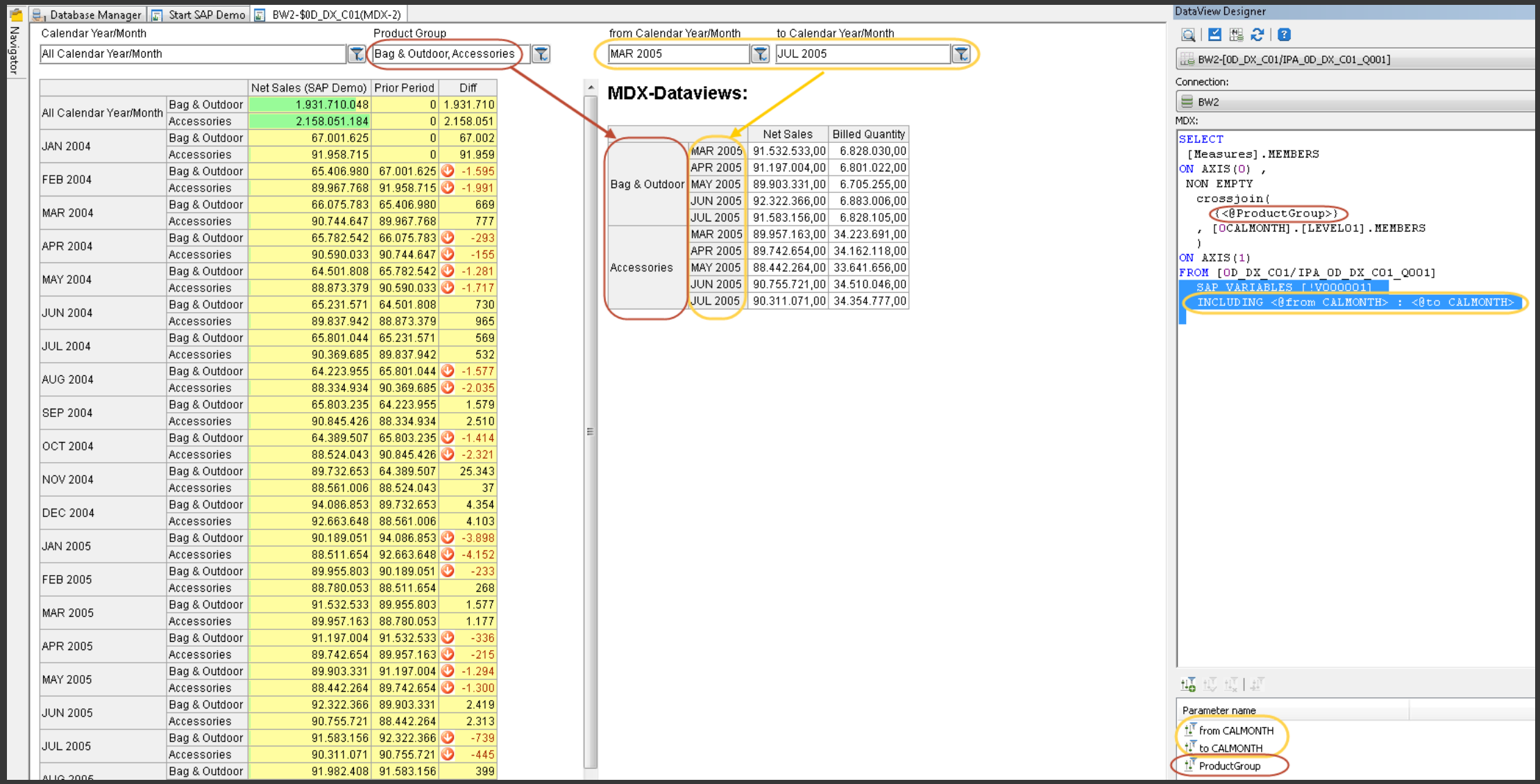
		Net Sales (SAP Demo)	Value share	Cum. value share
1	Pioneer Beverage Ltd	1.098.187	0,04 %	0,04 %
2	Golden Oak Shipping Inc	1.073.768	0,04 %	0,07 %
3	E & G Auto Sales, Inc	1.052.782	0,04 %	0,11 %
4	First Forklift Inc	1.050.110	0,04 %	0,14 %
5	Miller Machine Co Inc	1.040.499	0,03 %	0,18 %
6	Middletel Inc	1.040.492	0,03 %	0,21 %
7	Blue Zone Sales Ltd	1.011.644	0,03 %	0,25 %
8	Bill Smith Real Estate Group Inc	1.011.641	0,03 %	0,28 %
9	Bishop Tools & Manufactoring Inc	1.002.036	0,03 %	0,31 %
10	Tophouse Group Inc	992.416	0,03 %	0,35 %
11	Elixir Machines & Service Inc	982.802	0,03 %	0,38 %
12	City of Helena Inc	982.799	0,03 %	0,41 %
13	Blue Barn Insurance Inc	973.183	0,03 %	0,45 %
14	Rainbow Transfer Group Inc	973.176	0,03 %	0,48 %
15	Darkridge Golf Range	973.174	0,03 %	0,51 %
16	Hunter & Son Solutions Group Inc	970.439	0,03 %	0,54 %
17	Fowler Retailer Group Inc	963.564	0,03 %	0,57 %
18	Highlands Club Group Inc	963.563	0,03 %	0,61 %
19	Blue River Inc	963.557	0,03 %	0,64 %
20	Pepper Mill Automotive Inc	962.084	0,03 %	0,67 %
21	Poseidon Products Inc	961.816	0,03 %	0,70 %
22	Clayton Associates Inc	957.451	0,03 %	0,74 %
23	Oakville Motor Group Inc	955.784	0,03 %	0,77 %
24	Barton Co Inc	955.728	0,03 %	0,80 %
25	Pioneer Associates Inc	953.954	0,03 %	0,83 %
26	Bowes & Bowes Cafe Co Inc	953.953	0,03 %	0,86 %
27	F & B Truck Service	953.947	0,03 %	0,90 %
28	Blue Ridge Co Inc	953.947	0,03 %	0,93 %
29	Reynolds Bank & Trust Group Inc	953.945	0,03 %	0,96 %
30	Windmill Company Group Inc	953.945	0,03 %	0,99 %
31	Carlington Transfer & Storage Group Inc	953.945	0,03 %	1,02 %
32	Acadia Express Co Inc	953.945	0,03 %	1,05 %
33	Rails End Machines & Service Ltd	953.944	0,03 %	1,09 %
34	Rainbow Products Co Inc	953.943	0,03 %	1,12 %
35	Brians Gasket Co Inc	947.627	0,03 %	1,15 %
36	Keiser, City of	944.329	0,03 %	1,18 %
37	Liberty Products Ltd	944.324	0,03 %	1,21 %
38	Silver Eagle Store Inc	934.719	0,03 %	1,24 %

Live Demo: Waterfall Chart



	Q1 1998	Q2 1998	Q3 1998	Q4 1998
All Distribution channel	**503.872**	**209.414**	**525.184**	**515.674**
Direct Sales	281.528	49.000	35.000	224.000
Final Customer Sales	212.754	141.234	129.634	147.822
Sold for resale	9.590	19.180	358.666	119.876
Service			1.884	23.976

Live Demo: Table (with MDX-DataView)



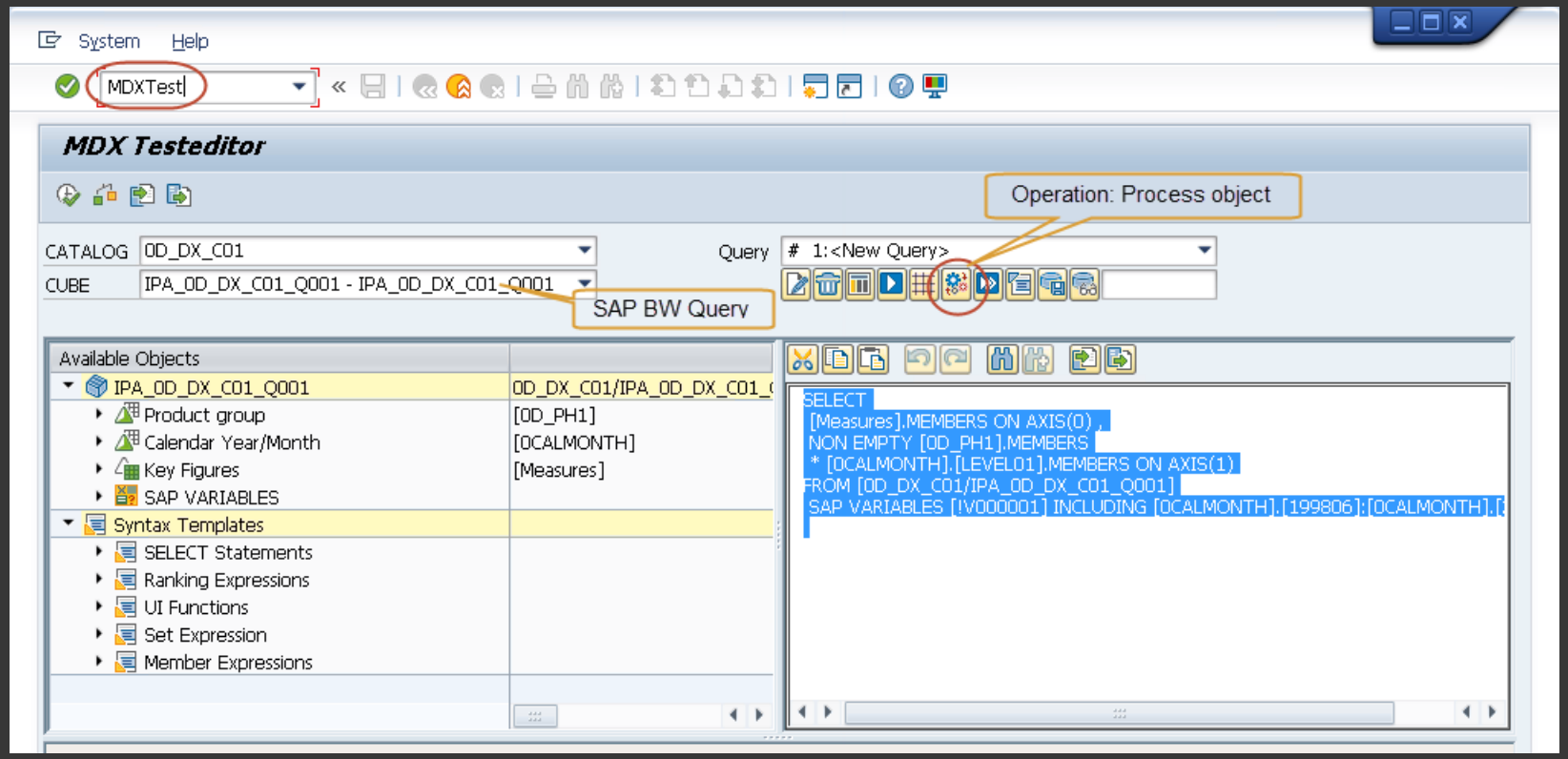
		Net Sales (SAP Demo)	Prior Period	Diff
All Calendar Year/Month	Bag & Outdoor	1.931.710.048	0	1.931.710
	Accessories	2.158.051.184	0	2.158.051
JAN 2004	Bag & Outdoor	67.001.625	0	67.002
	Accessories	91.958.715	0	91.959
FEB 2004	Bag & Outdoor	65.406.980	67.001.625	-1.595
	Accessories	89.967.768	91.958.715	-1.991
MAR 2004	Bag & Outdoor	66.075.783	65.406.980	669
	Accessories	90.744.647	89.967.768	777
APR 2004	Bag & Outdoor	65.782.542	66.075.783	-293
	Accessories	90.590.033	90.744.647	-155
MAY 2004	Bag & Outdoor	64.501.808	65.782.542	-1.281
	Accessories	88.873.379	90.590.033	-1.717
JUN 2004	Bag & Outdoor	65.231.571	64.501.808	730
	Accessories	89.837.942	88.873.379	965
JUL 2004	Bag & Outdoor	65.801.044	65.231.571	569
	Accessories	90.369.685	89.837.942	532
AUG 2004	Bag & Outdoor	64.223.955	65.801.044	-1.577
	Accessories	88.334.934	90.369.685	-2.035
SEP 2004	Bag & Outdoor	65.803.235	64.223.955	1.579
	Accessories	90.845.426	88.334.934	2.510
OCT 2004	Bag & Outdoor	64.389.507	65.803.235	-1.414
	Accessories	88.524.043	90.845.426	-2.321
NOV 2004	Bag & Outdoor	89.732.653	64.389.507	25.343
	Accessories	88.561.006	88.524.043	37
DEC 2004	Bag & Outdoor	94.086.853	89.732.653	4.354
	Accessories	92.663.648	88.561.006	4.103
JAN 2005	Bag & Outdoor	90.189.051	94.086.853	-3.898
	Accessories	88.511.654	92.663.648	-4.152
FEB 2005	Bag & Outdoor	89.955.803	90.189.051	-233
	Accessories	88.780.053	88.511.654	268
MAR 2005	Bag & Outdoor	91.532.533	89.955.803	1.577
	Accessories	89.957.163	88.780.053	1.177
APR 2005	Bag & Outdoor	91.197.004	91.532.533	-336
	Accessories	89.742.654	89.957.163	-215
MAY 2005	Bag & Outdoor	89.903.331	91.197.004	-1.294
	Accessories	88.442.264	89.742.654	-1.300
JUN 2005	Bag & Outdoor	92.322.366	89.903.331	2.419
	Accessories	90.755.721	88.442.264	2.313
JUL 2005	Bag & Outdoor	91.583.156	92.322.366	-739
	Accessories	90.311.071	90.755.721	-445
AUG 2005	Bag & Outdoor	91.982.408	91.583.156	399

		Net Sales	Billed Quantity
Bag & Outdoor	MAR 2005	91.532.533,00	6.828.030,00
	APR 2005	91.197.004,00	6.801.022,00
	MAY 2005	89.903.331,00	6.705.255,00
	JUN 2005	92.322.366,00	6.883.006,00
	JUL 2005	91.583.156,00	6.828.105,00
Accessories	MAR 2005	89.957.163,00	34.223.691,00
	APR 2005	89.742.654,00	34.162.118,00
	MAY 2005	88.442.264,00	33.641.656,00
	JUN 2005	90.755.721,00	34.510.046,00
	JUL 2005	90.311.071,00	34.354.777,00

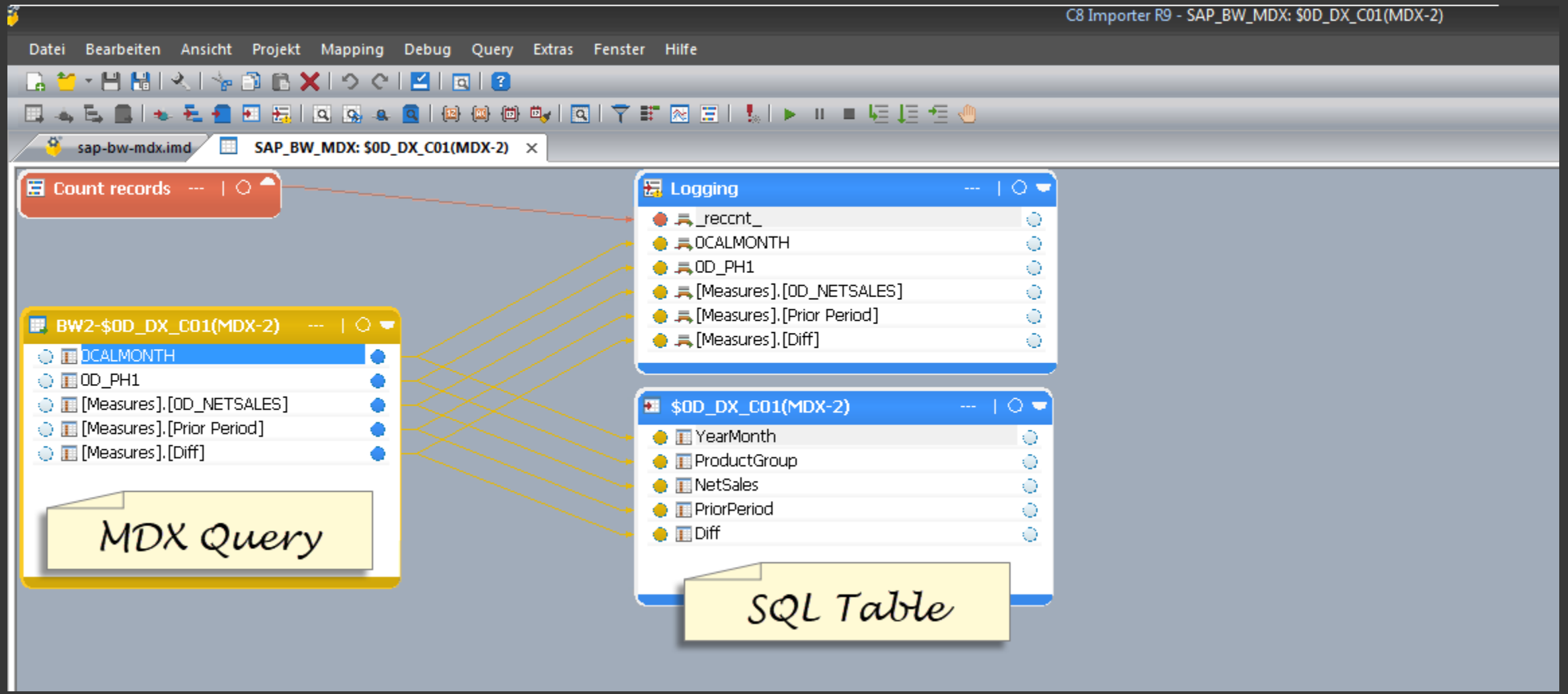
MDX Editor in SAP BW

TIPP: SAP-Transaktion „MDXTEST“ in SAP BW nutzen, um MDX „zusammen zu bauen“

- SAP BW Query auswählen
- Button „Operation: Process object“ drücken
- BW Query MDX in Cockpit MDX-Dataview kopieren („*“ durch „CrossJoin“ ersetzen!)



Live Demo: Importer MDX Transfer



SAP OLE DB for **OLAP** interface

The BW implementation of the OLE DB for OLAP interface is based on OLE DB Programmer's Reference Version 2.7 (Part 3: OLE DB for OLAP) from Microsoft.

➢ see SAP Help [BW implementation of the OLE DB for OLAP interface]

Installation:

- To access a BW system using OLE DB for OLAP, you need to install the SAP GUI (including the SAP BEx Suite). The SAP GUI setup contains components required by the SAP NetWeaver BW OLE DB for OLAP Providers:

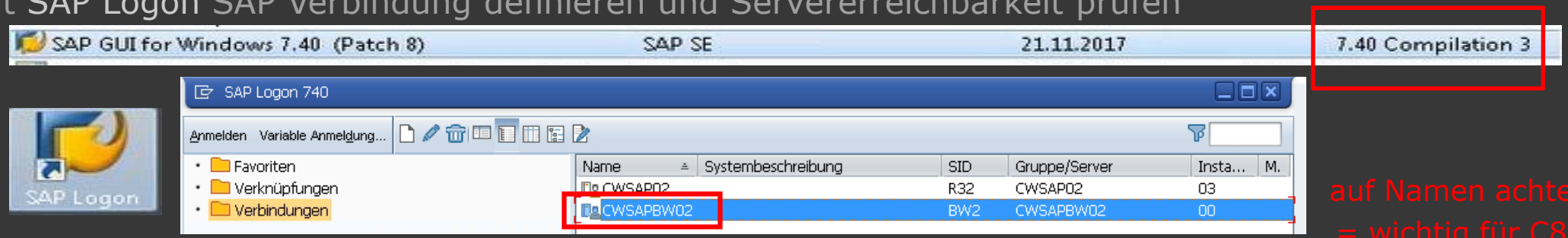
Component	Description
Mdrmsap.dll	SAP NetWeaver BW OLE DB for OLAP provider DLL
Mdrmdlg.dll	Service DLL to create a connection to the SAP server.
Scerrlkp.dll	Error handling DLL
Mdxpars.dll	MDX parser DLL
Librfc32.dll	SAP RFC library
Wdtlog.ocx	SAP RFC logon dialog
Saplogon.ini	SAP connection parameter file

- The SAP NetWeaver BW OLE DB for OLAP Provider is registered under the program ID: MDrmSAP
- A typical example of a provider string could be:

```
DataSource=JXX;UserID=MyName;Password=MyPassword;
Provider=MDrmSAP;SFC_CLIENT=005;SFC_LANGUAGE=DE
```

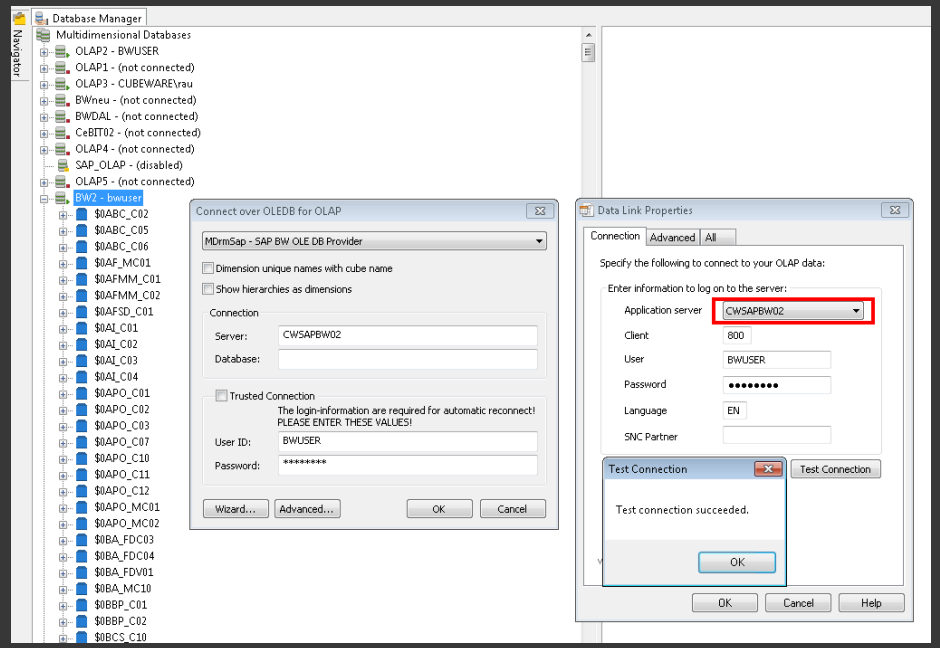
Voraussetzungen für C8 SAP BW-Verbindung

- SAP GUI (ab Version 7.40 Compilation 3) installieren – inkl. „OLEDB for OLAP"-Driver
- Mit SAP Logon SAP Verbindung definieren und Servererreichbarkeit prüfen



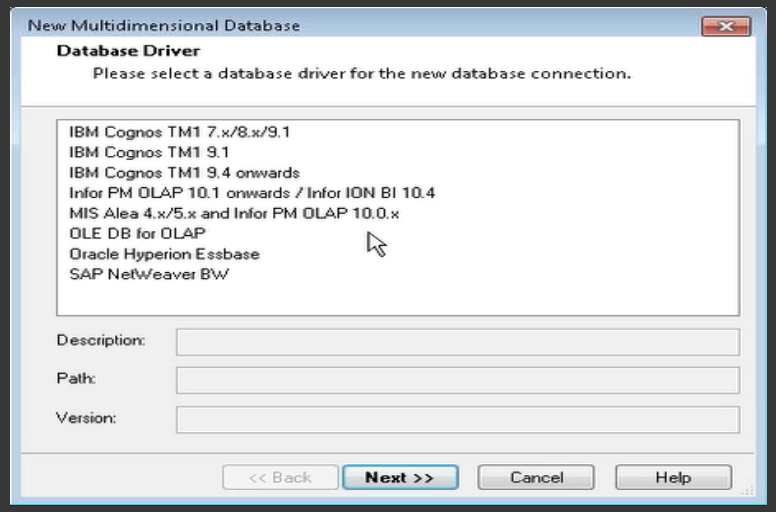
auf Namen achten !!!
= wichtig für C8 Verbindung

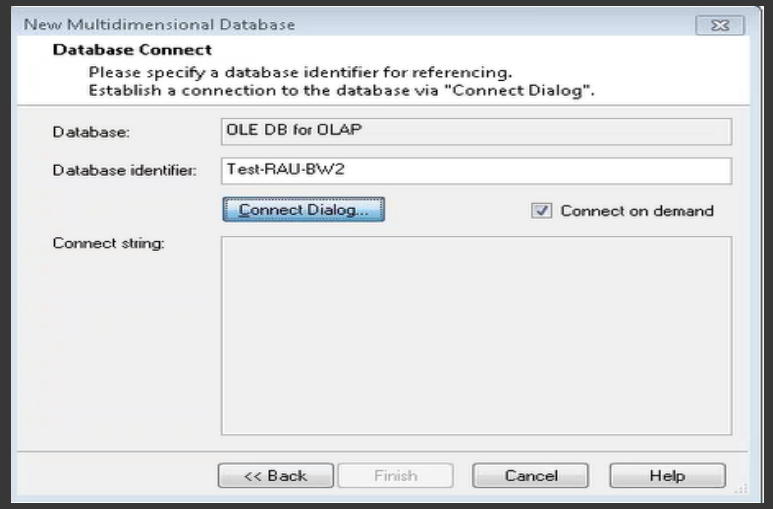
- Auf diese Definitionen in der erstellten „SAP Logon.ini" greift dann auch die C8 Verbindung zu:

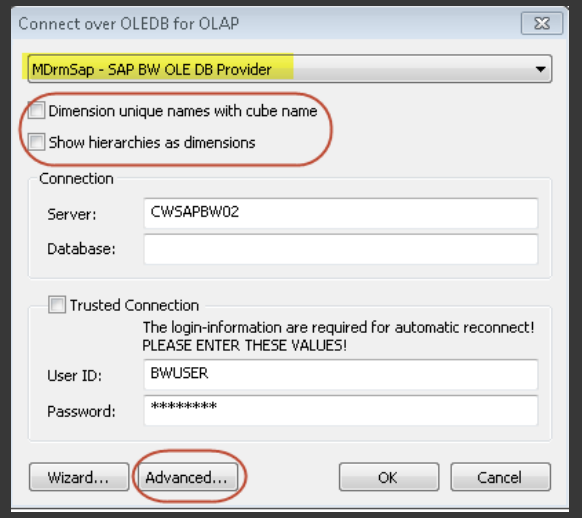


Neue Verbindung im C8 Cockpit anlegen

- OLEDB for OLAP Database Driver verwenden - nicht SAP NetWeaver BW nutzen.
- SAP BW OLE DB Provider (MDrmSAP) auswählen.
- „Dimension unique names with cube name“ nicht anhaken.
- „Show hierachies as dimension“ sollte nicht angehakt sein.
- „Trusted Connection“ nicht anhaken
  - SNC (Single Sign On) ist bereits im SAP Logon definiert.
- Mit „Advanced“ die SAP Definition aus SAP Logon auswählen/verwenden.

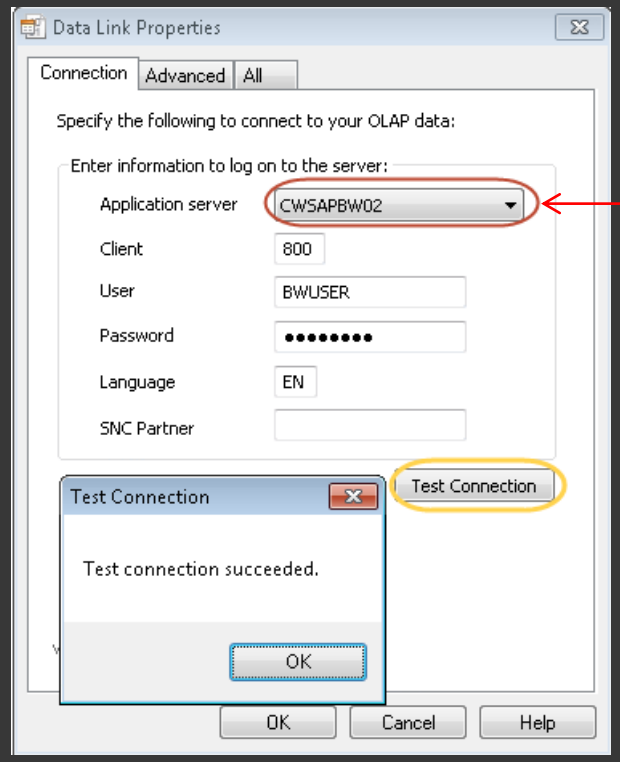


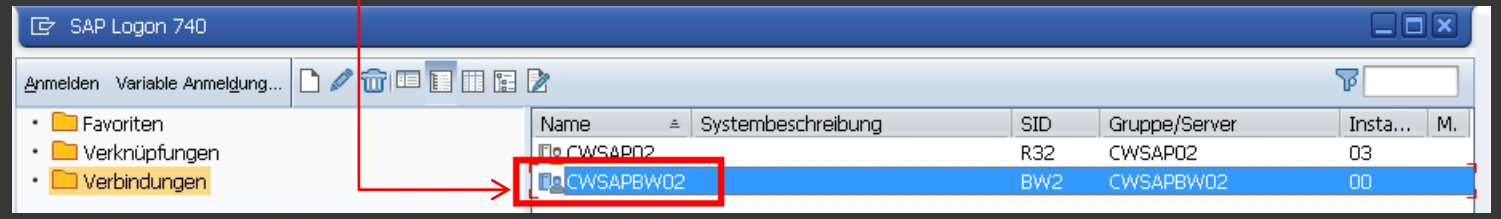




SAP Logon Definition verwenden

- C8 Cockpit Connection greift auf definierte SAP Logon Verbindung zu!
  Diese muss unter „Application server" ausgewählt werden!





Kontakt

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