

Dokumentation via metadata



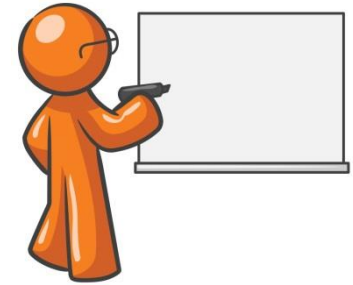
ORANGEMAN

Just Thorning Blindbæk

- ▶ Konsulent i justB
- ▶ Underviser hos Orange Man
- ▶ Initiativtager til MsBIP
- ▶ Arbejdet med Microsoft BI i 9 år
- ▶ Stærkt fokus på front-end
 - Analysis Services
 - Reporting Services
 - PerformancePoint Services
 - Excel og PowerPivot
 - Power BI
- ▶ just@blindbaek.dk / blog.justB.dk / [@justblindbaek](https://twitter.com/justblindbaek)



Agenda



- ▶ Kube dokumentation
- ▶ Rapport dokumentation
- ▶ Measure dependencies

- ▶ Ekstra:
 - ASTrace – hvilke measure anvendes
 - Udtræk til rapport test

- ▶ Ekstra ekstra:
 - Memory forbrug i SSAS Tabular

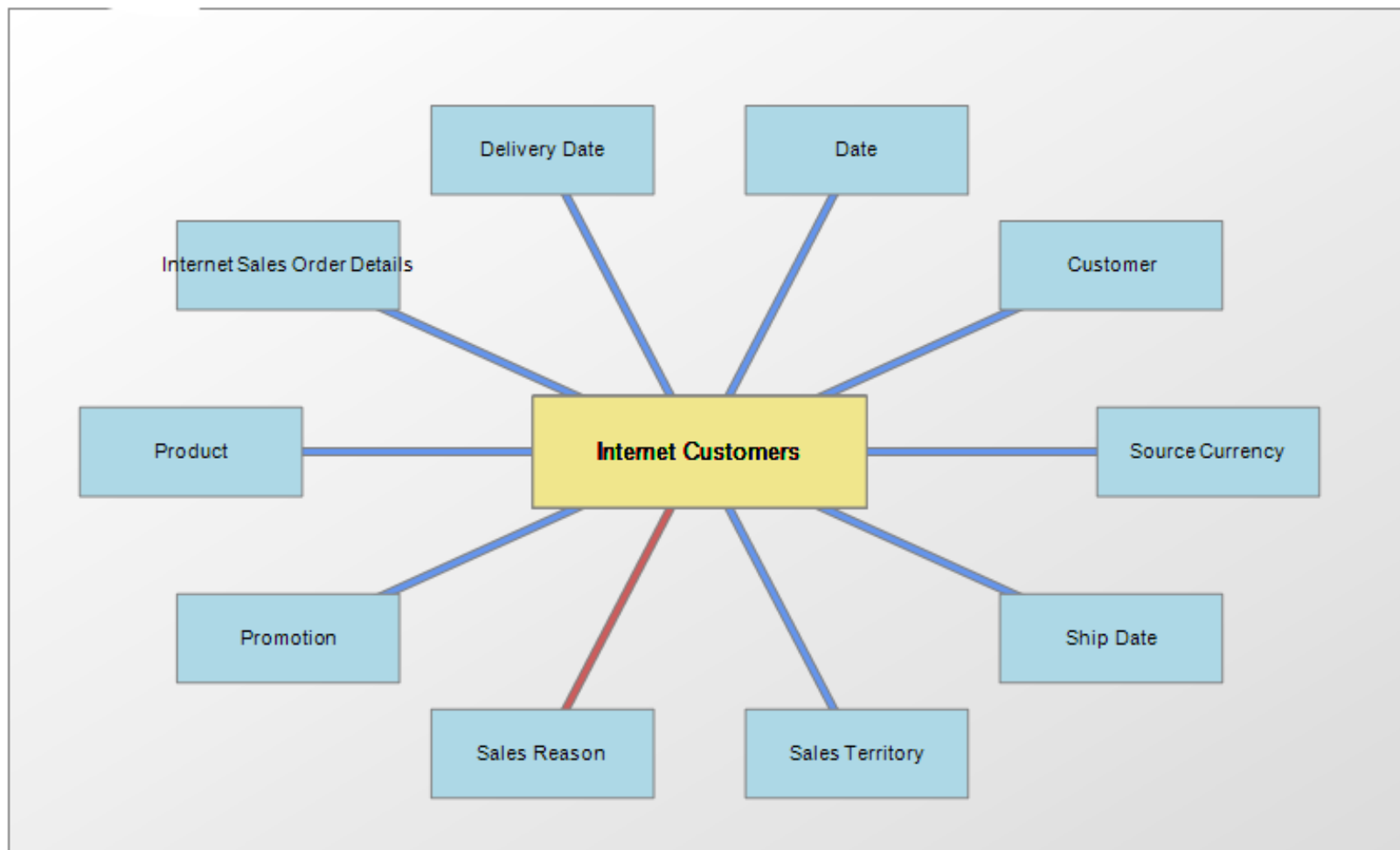
Kube dokumentation

- ▶ Udviklet af Alex Whittles fra Purple Frog
- ▶ Metadata fra DMV's
- ▶ OpenQuery via LinkedServer
- ▶ Udvidet med:
 - Oversat til dansk
 - Write-back af beskrivelser m.m.
 - Visning af M-M relationer



Stjerne skema

Relation	Mange til mange
----------	-----------------



ORANGEMAN

BUS Matrix

Relation	Mange til mange
----------	-----------------

Dimension role	Dimension	Exchange Rates	Financial Reporting	Internet Customers	Internet Orders	Internet Sales	Reseller Orders	Reseller Sales	Sales Orders	Sales Reasons	Sales Summary	Sales Targets
Account	Account		X									
Customer	Customer			X	X	X						
Date	Date	X	X	X	X	X	X	X	X		X	X
	Delivery Date			X	X	X	X	X	X		X	
	Ship Date			X	X	X	X	X	X		X	
Department	Department		X									
Destination Currency	Destination Currency	X	X			M		M			M	
Employee	Employee						X	X				X
Geography	Geography						X	X				
Internet Sales Order Details	Internet Sales Order Details			X	X	X				X		
Organization	Organization		X									
Product	Product			X	X	X	X	X	X		X	
Promotion	Promotion			X	X	X	X	X	X		X	
Reseller	Reseller						X	X				
Reseller Sales Order Details	Reseller Sales Order Details						X	X				
Sales Channel	Sales Channel								X		X	
Sales Reason	Sales Reason			M	M	M				X		
Sales Summary Order Details	Sales Summary Order Details								X		X	
Sales Territory	Sales Territory			X	X	X	X	X	X		X	X
Scenario	Scenario		X									
Source Currency	Source Currency			X	X	X	X	X	X		X	

ORANGEMAN

Rapport dokumentation

- ▶ Udviklet til et specifikt behov – opsætning af tests
- ▶ Metadata om rapporter
 - Tidspunkter for oprettet og senest ændret (og af hvem)
 - Liste over parametre
- ▶ Metadata om shared dataset
 - Liste over data source(s)
 - Liste over parametre
 - Liste over parametre som anvender datasættet
 - Statement – SP, SQL eller MDX

Measure dependencies

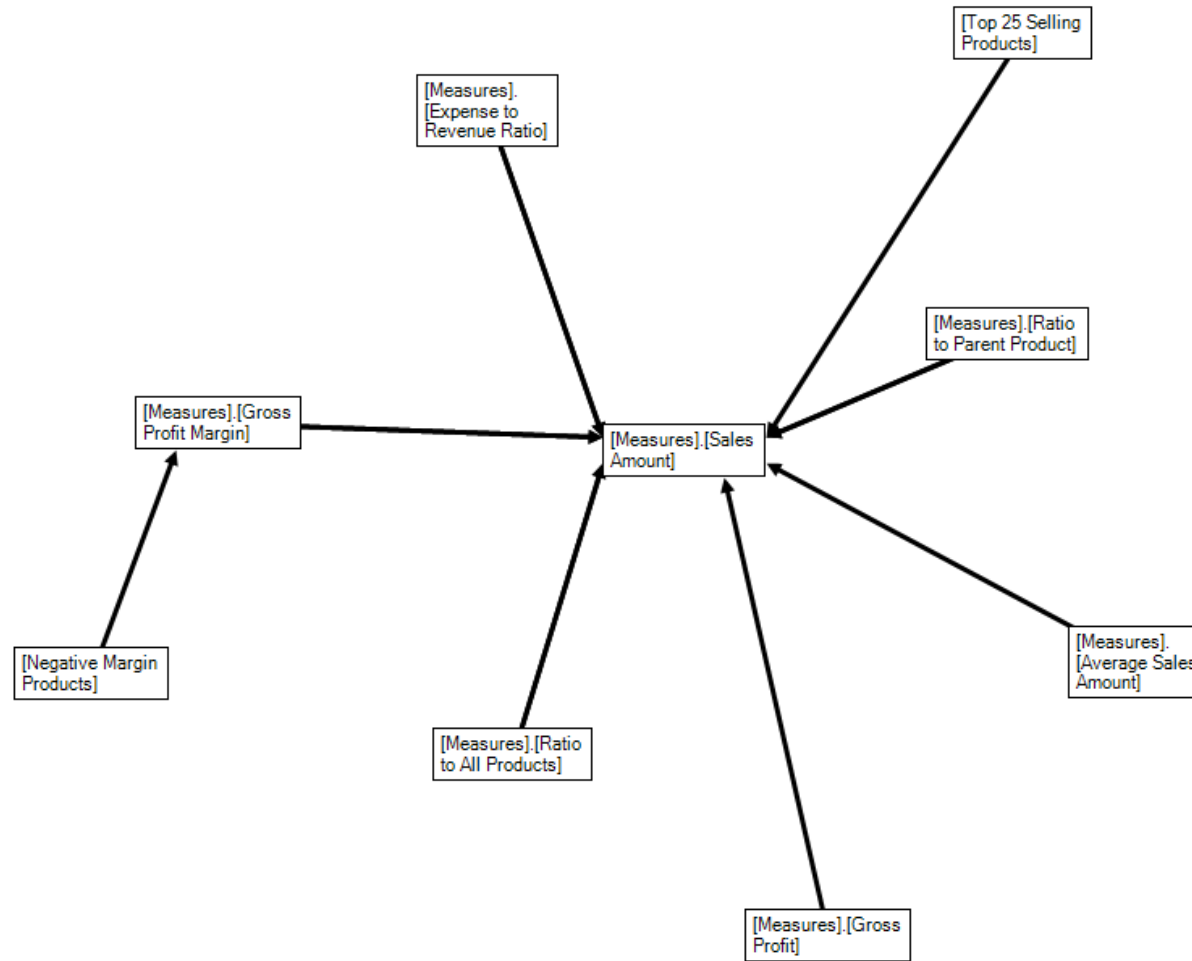
- ▶ Udviklet til et specifikt behov – kube med 600+ measures
- ▶ Hvor anvendes et specifikt measure?
 - SSRS: Rapporter og rapport dataset
 - SSAS: Calculated measures og measuregroups
 - DB: Stored procedures
- ▶ Kan modelleres som Parent-Child
- ▶ Mange-til-mange relation
- ▶ Visualisering?

Parent-child data structure

- ▶ Measure → Calculated measure → Calculated measure → Shared dataset → Rapport
- ▶ Measure → Shared dataset → Rapport
- ▶ Measure → Calculated measure → Stored procedure

ID	ParentID	Item	Type	Technology	Server
1	4	[Measure].[Sales Amount]	Measure	SSAS	T420s
1	2	[Measure].[Sales Amount]	Measure	SSAS	T420s
1	3	[Measure].[Sales Amount]	Measure	SSAS	T420s
2	4	[Measure].[Sales Percentage]	Calculated measure	SSAS	T420s
2	5	[Measure].[Sales Percentage]	Calculated measure	SSAS	T420s
3	4	/Datasets/dsDBDataset	Shared dataset	SSRS	T420s
4		/Report Project3/Report1	Report	SSRS	T420s
4		/Report Project3/Report2	Report	SSRS	T420s
5		spGetSales	Stored procedure	DB	T420s

MDX Studio - Dependencies



Visualisering med NodeXL

- ▶ Demo vil ikke virke efter opgradering til Windows 10 ☹



Visualisering med SSRS ☺


- ▶ Out of the box visualisering af parent-child via matrix

Type: Measure Name: [Measures].[Sales Amount]

1 of 1 100% Find | Next

Kube dokumentation - measure dependency

Name: [Measures].[Sales Amount]
Updated: 11/5/2015 8:08 AM

Recursive parent: [ParentNodeID] 

Parents	Type	Technology	Niveau
/AdventureWorks Sample Reports	Report folder	SSRS	0
/AdventureWorks Sample Reports/Sales Reason Comparisons	Report	SSRS	1
/AdventureWorks Sample Reports/Sales Reason Comparisons/ProductData	Report dataset	SSRS	2
/Report Project1	Report folder	SSRS	0
/Report Project1/ReportWizard	Report	SSRS	1
/Report Project1/ReportWizard/GPMProductLine	Report dataset	SSRS	2
[Measures].[Channel Revenue Goal]	Calculated measure	SSAS	0
[Measures].[Expense to Revenue Ratio Value]	Calculated measure	SSAS	0
[Measures].[Expense to Revenue Ratio]	Calculated measure	SSAS	1
[Measures].[Product Gross Profit Margin Value]	Calculated measure	SSAS	0
[Measures].[Gross Profit Margin]	Calculated measure	SSAS	1
[Measures].[Gross Profit]	Calculated measure	SSAS	1
[Measures].[Revenue Value]	Calculated measure	SSAS	0
[Measures].[Average Sales Amount]	Calculated measure	SSAS	0
[Measures].[Ratio to All Products]	Calculated measure	SSAS	0
[Measures].[Ratio to Parent Product]	Calculated measure	SSAS	0
[Measures].[Revenue Goal]	Calculated measure	SSAS	0

Childrens	Type	Technology	Niveau
[Measures].[Sales Amount]	Measure	SSAS	0

AStTrace – hvilke measures anvendes

- ▶ SSAS monitorerings værktøj
 - Service som gemmer trace data i tabel
 - Fra minimum til maksimum SSAS information
 - Udviklet af Microsoft, men på CodePlex - use at own risk
- ▶ FullTextIndex til at gennem søge efter measures

	EventClass	TextData	NTUserName	ApplicationName	StartTime	Duration	DatabaseName
1	10	SELECT NON EMPTY { [Measures].[End of Day Rate] } ...	just	Microsoft SQL Server Management Studio	2015-11-05 09:29:06.000	22	AdventureWorks2014
2	10	SELECT NON EMPTY { [Measures].[End of Day Rate] } ...	just	Microsoft SQL Server Management Studio	2015-11-05 09:29:11.000	16	AdventureWorks2014
3	10	SELECT NON EMPTY { [Measures].[End of Day Rate] } ...	just	Microsoft SQL Server Management Studio	2015-11-05 09:29:13.000	3	AdventureWorks2014
4	10	SELECT NON EMPTY { [Measures].[Internet Freight Cos...	just	Microsoft SQL Server Management Studio	2015-11-05 11:24:05.000	5	AdventureWorks2014
5	10	SELECT FROM [Adventure Works] WHERE ([Measures...	just	NULL	2015-11-05 11:32:56.000	71	AdventureWorks2014
6	10	SELECT NON EMPTY Hierarchy([DrilldownLevel]([Deli...	just	NULL	2015-11-05 11:33:07.000	61	AdventureWorks2014
7	10	SELECT NON EMPTY Hierarchy([DrilldownMember]([D...	just	NULL	2015-11-05 11:33:12.000	65	AdventureWorks2014
8	10	SELECT NON EMPTY Hierarchy([DrilldownMember]([D...	just	NULL	2015-11-05 11:33:15.000	19	AdventureWorks2014
9	10	SELECT NON EMPTY Hierarchy([DrilldownMember]([D...	just	NULL	2015-11-05 11:33:26.000	16	AdventureWorks2014
10	10	SELECT {[Measures].[Internet Order Count],[Measures]...	just	NULL	2015-11-05 11:33:35.000	26	AdventureWorks2014
11	10	SELECT NON EMPTY Hierarchy([DrilldownMember]([D...	just	NULL	2015-11-05 11:33:36.000	15	AdventureWorks2014

http://blogs.msdn.com/b/karang/archive/2012/06/05/ssas_2d00_monitoring_2d00_tool_2d00_astrace.aspx

Udtræk til rapport test

- ▶ Sammenlign rapporter før og efter deploy
- ▶ Udtræk rapporter med default parametere
- ▶ Evt. manuel tilpas parametre og opret flere tests
- ▶ Returner liste over rapporter med URL
 - Parametrer
 - Format
- ▶ PowerShell script trækker og sammenligner rapporter

ReportTestNumber	Path	ReportName	InTest		EndDate	12/31/2009 00:00:00	false	DateTime
1	/AdventureWorks Sample Reports/Company Sales	Company Sales	No	5	ProductCategory	1	false	Integer
2	/AdventureWorks Sample Reports/Customers_Near_Stor...	Customers_Near_Stores	No	6	SalesOrderNumber	SO50750	false	String
3	/AdventureWorks Sample Reports/Employee_Sales_Sum...	Employee_Sales_Summary	No	7	ProductCategory	[Product].[Category] &[1]	false	String
4	/AdventureWorks Sample Reports/Product Catalog	Product Catalog	No	8	USStatesTransparency	0	false	Float
5	/AdventureWorks Sample Reports/Product Line Sales	Product Line Sales	Yes	9	StoreID	642	false	String
6	/AdventureWorks Sample Reports/Sales Order Detail	Sales Order Detail	No	5	ProductSubcategory	2	false	Integer
7	/AdventureWorks Sample Reports/Sales Reason Compari...	Sales Reason Comparisons	No	5	StartDate	01/01/2003 00:00:00	false	DateTime
8	/AdventureWorks Sample Reports/Sales_by_Region	Sales_by_Region	Yes	8	ShowAll	False	false	Boolean
9	/AdventureWorks Sample Reports/Store_Contacts	Store_Contacts	No	8	ShowBingMaps	Hidden	false	String
10	/AdventureWorks Sample Reports/Territory Sales Drilldown	Territory Sales Drilldown	No	8	BingMapTileType	Aerial	false	String
				8	Distance	50	true	Integer
				9	ShowAll	False	false	Boolean

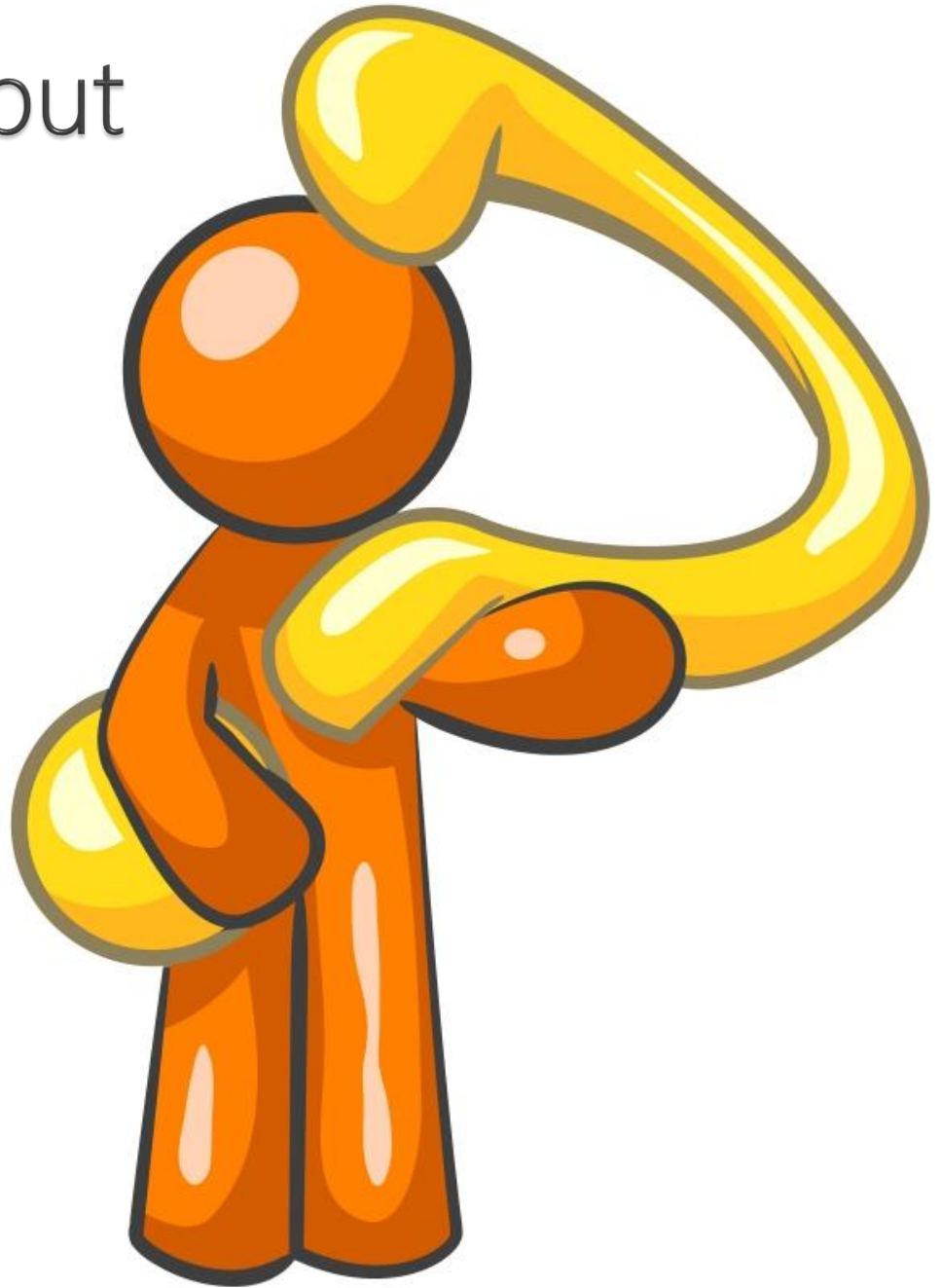
Name	Description	URL
Product Line Sales.PDF nr. 5	Product Line Sales, EndDate=12/31/2009 00:00:00, P...	http://X1/ReportServer?/AdventureWorks Sample Reports/Product Line Sales&EndDate=1...
Sales_by_Region.PDF nr. 8	Sales_by_Region, USStatesTransparency=0, ShowAl...	http://X1/ReportServer?/AdventureWorks Sample Reports/Sales_by_Region&USStatesTra...

Memory forbrug i SSAS Tabular

- ▶ Udviklet af Kasper De Jonge og forfinet af James Beresford, aka the BI Monkey
- ▶ DISCOVER_OBJECT_MEMORY_USAGE
- ▶ The main features of the Tabular model are
 - A Measure for Memory usage
 - A Hierarchy for exploring the structure of the memory use
 - An Attribute for the Model
 - An Attribute for the Model Object
 - An Attribute to identify Server objects

<http://www.bimonkey.com/2014/12/exploring-memory-usage-in-tabular-models/>

Spørgsmål og input



ORANGEMAN