What's new in Analysis Services 2016

Gerhard Brueckl

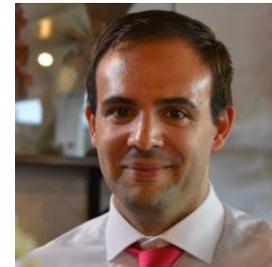# Our Main Sponsors:

Say Thank you to **Volunteers**:

- They spend their **FREE** time to give you this event.
- Because they are crazy. ☺
- Because they want **YOU**
  to learn from the BEST IN THE WORLD.

Eduardo Piairo

Diamantino Falcão

Filipe Coelho

João Sarmento

Nuno Rafael

Sponsor Sessions at **15:05**

- Don't miss them, they might be distributing some **awesome prizes**!

Auditório Magno

Exciting certification changes with SQL Server 2016

Auditório 1

Culto de BI
Successful projects

About Me

Gerhard Brueckl

From Austria

Working with Microsoft BI since 2006

Mainly focused on Analytics and Reporting

Analysis Services / Power BI

Microsoft Azure

MVP Microsoft Most Valuable Professional

SSAS MAESTRO by Microsoft

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What's new in Analysis Services 2016

- SSAS Multidimensional
  - Deprecated/Removed Features
  - New Features

- SSAS Tabular
  - Engine
  - Administrator
  - Developer
  - SSDT

SSAS 2016 Multidimensional

Removed Features:

- NON_EMPTY_BEHAVIOR

- COM assemblies

- CalculationCurrentPass()
  CalculationPassValue()

SSAS 2016 Multidimensional

Now Deprecated Features:

- Session Cubes (Excel Groupings)
- Local Cubes
- SQL Server Profiler for SSAS
- Dimension Writeback
- [Remote] Linked Dimensions
- Remote Partitions

SSAS 2016 Multidimensional

What's New:

- Improvements for Excel Queries

- ROLAP Distinct Count Improvements

- DBCC

- Changes to Analysis Services Management Objects (AMO)

SSAS 2016 Tabular

What's New in the Engine:

- New Compatibility Level 120
- Parallel Processing of Partitions
- General Performance Improvements
- [DBCC](#)
- [HeapType](#)

SSAS 2016 Tabular

Parallel Processing:

- Partitions of same Table

- Huge load on RDBMS

- Set MaxParallelism

SSAS 2016 Tabular

What's New for the Administrator:

- Tabular Model Scripting Language (TMSL)
- Extended Events
- DBCC
- Editions
- Upgrade to 2016

SSAS 2016 Tabular

Tabular Model Scripting Language:

- JSON – user-readable
- For DDL and DML

- Specific to Tabular Object

- Object Names instead of IDs

SSAS 2016 Tabular

Extended Events:

- Management via SSMS

SSAS 2016 Tabular

DBCC:

- DB Consistency Check
- As during Restore
- TAB and MD

- Output via Profiler / XEvents
  - Progress Report Current

SSAS 2016 Tabular

Editions:

- **Standard**
  - 4 sockets / 24 cores
  - Max 16 GB memory
- **Enterprise**
  - OS limit
  - OS limit
- **No BI Edition**

Partitions
Perspectives
DirectQuery

SSAS 2016 Tabular

Upgrade to 2016:

- Instance Upgrade

- Database Upgrade
  - In-Memory
  - Direct Query

SSAS 2016 Tabular

Upgrade to 2016:

- Supported Compatibility Levels

Mode	Level	Version
Multidimensional	1050	SQL Server 2005, 2008, 2008 R2
Multidimensional	1100	SQL Server 2012, or later
Tabular	1100	SQL Server 2012
Tabular	1103	SQL Server 2014
Tabular	1200	SQL Server 2016

SSAS 2016 Tabular

What's New for the Developer:

- New Compatibility Level 120
    - Bidirectional Filtering
    - Display Folders
    - Translations
    - New DAX Functions
    - Calculated Tables
    - DAX Variables

SSAS 2016 Tabular

<u>Bidirectional Filtering:</u>

- "Many-to-Many"

- Caution
  - Business Impact
  - Performance

- CROSSFILTER()

- SSDT – "Default Filter Direction"

SSAS 2016 Tabular

DisplayFolders:

- Measures and Attributes
- Nested
- Duplications

Translations:

- Metadata only
- Import / Export
- JSON

SSAS 2016 Tabular

New DAX Functions:

- CROSSFILTER()

- MEDIAN[X]()

- PRODUCT[X]() / CONCATENATEX()

- INTERSECT() / UNION()

- DATEDIFF()

- CALENDAR[AUTO]()

- 50+ more …

SSAS 2016 Tabular

Calculated Tables:

- CALENDAR[AUTO]()
- Aggregated Tables

Variables:

- Readability
- Usability
- Performance

SSAS 2016 Tabular

DirectQuery:

- Works with MDX

- Sample-View

- Performance Improvements

- Limitations
  - Calc Columns on same row
  - RLS

- Referential Integrity

SSAS 2016 Tabular

SSDT Improvements:

- [Integrated Workspace Mode](#)
- Tabular Object Explorer
- VS Configurations
- Delta Deployment
- Proper IntelliSense
- Autofix Measures
- Comments in DAX

SSAS 2016 Tabular

Integrated Workspace Mode:

- Hosts a separate SSAS Instance

SSAS 2016 Tabular

Tabular Object Explorer:

- Compatibility Level 1200 and above

- Perform Basic Operations
- Change Properties

SSAS 2016 Tabular

Delta Deployment:

- XMLA

SSAS 2016 Tabular

DAX Authoring:

- IntelliSense
- AutoFix
  - Dependencies
  - Missing Brackets
- Comments
- Indention

SSAS 2016 Tabular

"Open Issues":

- Multi-User Development
  - Single File

- Defer Update during Development

- Tabular Editor by *Daniel Otykier*

SSAS 2016 Virtual Lab

https://vlabs.holsystems.com/vlabs/technet?eng=VLabs&auth=none&src=vlabs&altadd=true&labid=23110&lod=true

Thank You

Any Questions?

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