SUMMIT2017
PASS

SSIS and the Cloud: Yes, They Can Get Along

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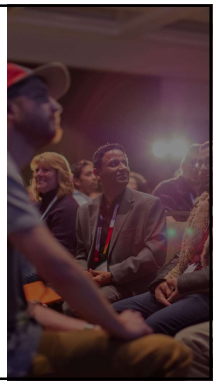
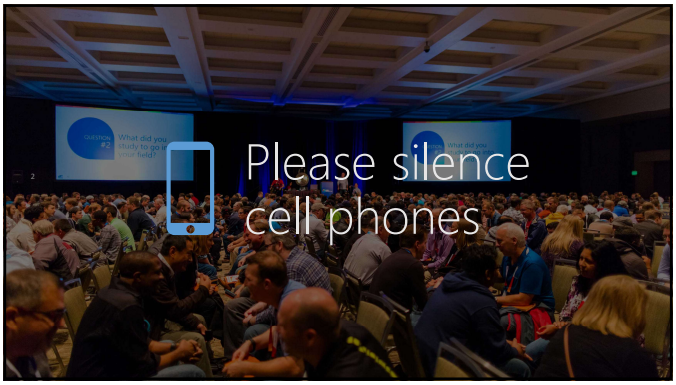
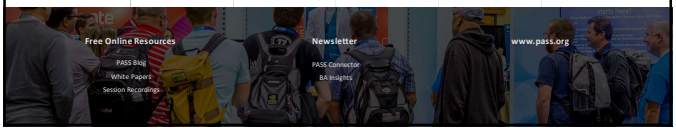




Explore everything PASS has to offer

24HOURS OF PASS	LOCAL GROUPS	SQLSATURDAY	VIRTUAL GROUPS	BUSINESS ANALYTICS DAY	PASS VOLUNTEERS
Free online webinar events	Local user groups around the world	Free 1-day local training events	Online special interest user groups	Business analytics training	Get involved



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Microsoft MVP, 2010 - Present

Member, Boulder BI Brain Trust (BBBT)

Coauthor, SSIS Design Patterns book

Agenda

- SSIS on-prem overview
- Hybrid scenarios
- SSIS running in the cloud
- Azure feature pack
- SSIS vs. Azure Data Factory
- Running SSIS on AzureDB

SSIS ON-PREM OVERVIEW

SSIS On-Prem Overview

- Released in 2005
- Connections enable most local data sources
- Some remote data connectivity

SSIS On-Prem Overview

Architecture

- Build SSIS packages in Visual Studio
- Packages/projects stored on server
- Packages are executed on the server

SSIS On-Prem Overview

Package storage

- SSIS catalog
- MSDB
- File system

SSIS On-Prem Overview

- Predates the rise of the cloud
- Early versions weren't cloud-friendly

SSIS On-Prem Overview

- Modern versions of SSIS have some cloud support
- Still runs only on an installed version of SQL Server *

SSIS On-Prem Overview

PaaS in SQL Server BI Stack

SQL Server	✓
SQL Server Analysis Services	✓
SQL Server Integration Services	✗ *
SQL Server Reporting Services	✗

HYBRID SCENARIOS

Hybrid Scenarios

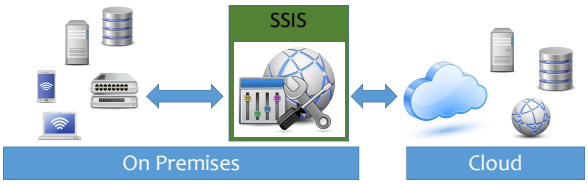
- Modern architectures are overwhelmingly hybrid
  - PaaS
  - IaaS
  - SaaS
  - On-premises

Hybrid Scenarios

- Hybrid architectures still need ETL
- It still has to interact with local, PaaS, IaaS data sources

Hybrid Scenarios

- Use case: SSIS on-prem used as an ETL gateway for cloud and on-prem data sources



Hybrid Scenarios

- SSIS on-prem advantages
  - Easy, adapter-free connection to on-prem connections
  - Full control of SSIS server
  - Use SSIS server for other purposes

SSIS IN THE CLOUD

SSIS in the Cloud

- SSIS cloud = IaaS
  - Virtual machine
  - Installed version of SQL Server

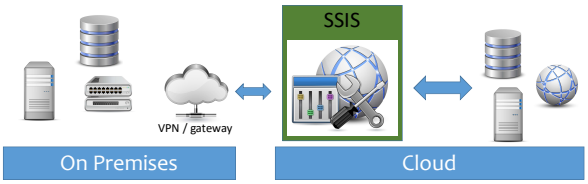
SSIS in the Cloud

- Each source, destination is just a connection
  - Cloud databases (DBaaS)
  - VM instances of SQL
  - Remote services (FTP, web services)

SSIS in the Cloud

Use case: SSIS running in an Azure VM

- Easiest to use when connections are cloud or remote



SSIS in the Cloud

- Authentication
  - User name/password
  - Azure Active Directory
  - Can still use stored credentials in SSIS catalog for password-connected connections

SSIS in the Cloud

- Networking
  - Logical networking
  - Bridged networks (virtually join multiple logical networks)
  - On-prem connector or VPN

SSIS in the Cloud

- Can even work on non-Azure VMs *

SSIS in the Cloud

- Management and administration
  - Very similar to on-prem
  - Use same monitoring methods and tools
  - Minimal learning curve
  - Deployment

SSIS in the Cloud

- Management and administration
  - Regular maintenance
  - Backup
  - Index maintenance
  - Catalog log table purge

SSIS in the Cloud

- SSIS cloud VM advantages
  - Up and running in minutes
  - Scale up ETL when needed, power off when done
  - Scale out
    - Scale out feature in 2017
  - Cost
    - Pay by the hour *

USING THE AZURE FEATURE PACK FOR SSIS

Azure Feature Pack

- Add-on for Azure tasks and connectivity
  - Azure blob
  - Data lake
  - Pig
  - Hive
  - Azure Data Warehouse

Azure Feature Pack

- Available for SSIS 2012+

SSIS VERSUS AZURE DATA FACTORY

SSIS versus ADF

- ADF is not SSIS in the cloud!

SSIS versus ADF

- SSIS is an ETL tool installed on SQL Server
- Familiar and easy UI
- Easier to use for conventional data load processes when installed SQL Server is already in use

SSIS versus ADF

- ADF is a data load orchestrator that runs purely as a cloud service
- Less UI, more code
- An option if other processes are doing transformations, or when SQL Server is not installed

SSIS versus ADF

- ADF v2 preview shows many improvements

RUNNING SSIS ON AZUREDB

Running SSIS on AzureDB

- New preview version of Azure runtime allows PaaS execution of SSIS packages
- Azure Data Factory V2

Running SSIS on AzureDB

- Programmatically build a Data Factory and set it up for SSIS execution
- Integration Services catalog shows up in Azure DB connection

Running SSIS on AzureDB

- Interaction is similar to on-prem SSIS
- Catalog execution, reports, etc.

Running SSIS on AzureDB

- Limitations
  - No UI for setting up or monitoring ADF
  - No custom or third-party plug-ins
  - Scheduling

DEMO

Resources

Deploy packages to Azure: http://bit.ly/ADFV2SSIS
Azure feature pack for SSIS: http://bit.ly/SSISAFP

Thanks!

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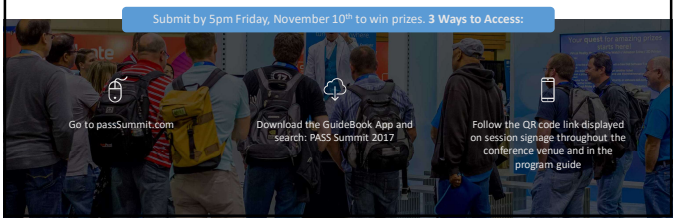
Session evaluations

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