Overview of Hybrid Scenarios with Office 365 and SharePoint

• #SPSParis - C03
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About me

• Project Manager, Consultant, Trainer
• About 50 Microsoft certification exams passed
  • MCSM – Charter SharePoint
  • MVP Office 365
  • Office 365 Dev PnP Core Team Member
• Focused on SharePoint since 2002
• Author of 10 books
• Speaker at main IT conferences
Agenda

• Understanding Hybrid Scenarios in SharePoint
• Hybrid Cloud Topologies
  • Hybrid Search Outbound
  • Hybrid Search Inbound
  • Hybrid Search Two-Way
  • Topologies for BCS
  • Topologies for SAP
• Other Services
• What’s new with SharePoint 2016 and Office 365
Understanding Hybrid Scenarios in SharePoint
Why Hybrid Cloud does matter?

• The cloud optimizes businesses
  • Scalable
  • Accessible
  • Flexible
  • You pay as you go (lower TCO)
  • Etc.

• Right now, just a few enterprises are “cloud only”

• Much more have both services on-premises and on the cloud
  • They are moving gradually ...
  • Hybrid Cloud supports these kind of business
Office 365 and Hybrid Cloud

• When you have an Office 365 tenant
• And you have on-premises services
  • SharePoint Server 2013
  • Exchange Server 2013
  • Lync Server 2013
  • Business Data sources (DBMS, SOAP services, etc.)
  • SAP
• You can choose an hybrid deployment
• Leveraging Office 365, SharePoint, Exchange, Lync, and Azure
SharePoint Hybrid Scenarios in Office 365

- Hybrid Search
- Business Connectivity Services
- Duet Enterprise
Benefits of Hybrid SharePoint

• Search for content in both SharePoint Server 2013 and SharePoint Online at once
• Interact with on-premises business data from SharePoint Online
• Access corporate SAP systems from SharePoint Online
• Seamlessly access files and data in both SharePoint Server 2013 and SharePoint Online
Why Going Hybrid?

• Contents both on-premises and on the cloud
• Sharing users’ accounts across on-premises and cloud
  • Single sign-on for users via ADFS
• Some business data (ERP, DBMS, DWH) are on-premises
• Performances, to avoid cross-premises/cross-network issues
• Independence from the cloud for some «business critical» data
Requirements for Hybrid Topologies

- Directory Federation via ADFS and Azure AD Sync
- Internet routable AD domains
- SSL certificates and secured communication channels
- Good bandwidth and Internet connectivity
- Office 365 Enterprise Subscriptions
- SharePoint Server 2013 Enterprise on-premises
Limitations of Hybrid Topologies

• Office 365 + DirSync does not support multi-forest environments
  • You will need the new Azure Active Directory Sync Tool

• Some Service Applications cannot be shared
  • User Profile Service
  • Managed Metadata Service
  • Word Automation Services
  • Workflow Services
  • Etc.
Demo

Let’s see how Hybrid SharePoint behaves!
Hybrid Cloud Topologies
Available Topologies for Search

• One-way outbound
  • SharePoint Server 2013 Search services can query the SharePoint Online search index and return federated results to SharePoint Server 2013 Search.

• One-way inbound
  • SharePoint Online Search services can query the SharePoint Server 2013 search index and return federated results to SharePoint Online Search.

• Two-way
  • Both SharePoint Server 2013 and SharePoint Online Search services can query the search index in the other environment and return federated results.
One-Way Outbound Search
One-way outbound topology

Microsoft data center

SharePoint Online

- Local search results only
- Site collection

SharePoint Online cannot query SharePoint Server

Internet

Outbound

SharePoint

- Primary web app
- Federated search results

SharePoint Server 2013

- Search: One-way outbound
- Business Connectivity Services: Not supported
- Duet Enterprise for SharePoint and SAP: Not supported

Intranet

SharePoint Server can query SharePoint Online

On-premises SharePoint Server 2013 Enterprise Search portal: Local and remote search results are available
SharePoint Online search portal: Local search results are available
Requirements for one-way outbound

- An operational AD DS
  - Windows Server 2003 forest functional level or higher
- An internet public domain with DNS management
- An Office 365 Enterprise plan subscription provisioned
- An operational SharePoint Server 2013 Enterprise farm on-premises
- An on-premises ADFS deployment
  - Including the implied requirements
- An on-premises DirSync/AAD Sync server
- Replace the default STS certificate on-premises
Requirements for one-way outbound (more)

- SharePoint Server on-premises required services
  - User Profile Service
  - App Management Service
  - Microsoft SharePoint Foundation Subscription Settings Service
- Web Application with Integrated Windows Authentication NTLM
  - Can be a dedicated zone, which extends the default one
- Check OAuth requirements (HTTP/HTTPS) against your endpoint
Configure Server-to-Server trust (cont.)

- Install the following tools
  - The Microsoft Online Services Sign-In Assistant
  - The Azure Active Directory Module for Windows PowerShell
  - The SharePoint Online Management Shell
- Execute a bunch of PowerShell scripting to configure S2S with SharePoint Online
  - Upload STS certificate to SharePoint Online
  - Add SPN to Azure Active Directory
  - Register SharePoint Online AppPrincipal within on-premises farm
  - Configure an on-premises proxy for Azure AD
Search One-Way Outbound

- Acting as a Search Admin in on-premises farm
- Configure a result source on SharePoint Server 2013
  - Protocol: Remote SharePoint
  - Provide Remote Service URL as https://<tenant>.sharepoint.com
  - Provide Default Authentication for Credentials
- Configure a query rule on SharePoint Server 2013
One-Way Inbound Search
One-way inbound topology

Microsoft data center

Office 365 tenant

SharePoint Online
- Federated search results
- Site collection

SharePoint Online can query SharePoint Server

Inbound

Internet

Perimeter network

SharePoint Server 2013
- Search: One-way inbound
- Business Connectivity Services: Supported
- Duet Enterprise for SharePoint and SAP: Supported

Outbound

Customer network

SharePoint
- Primary web app
- Local search results only

SharePoint Server cannot query SharePoint Online

On-premises SharePoint Server 2013 Enterprise Search portal: Local search results are available

SharePoint Online search portal: Local and remote search results are available
Requirements for one-way inbound

- An operational AD DS
  - Windows Server 2003 forest functional level or higher
- An internet public domain with DNS management
- An Office 365 Enterprise plan subscription provisioned
- An operational SharePoint Server 2013 Enterprise farm on-premises
- An on-premises ADFS deployment
  - Including the implied requirements
- An on-premises DirSync/AAD Sync server
- A Reverse Proxy + SSL certificate (* or SAN Certificate)
  - SSL issued by a public and trusted CA
- Replace the default STS certificate on-premises
Requirements for one-way inbound (more)

- SharePoint Server on-premises required services
  - User Profile Service
  - App Management Service
  - Microsoft SharePoint Foundation Subscription Settings Service
- Web Application with Integrated Windows Authentication NTLM
  - Can be a dedicated zone, which extends the default one
  - HTTPS endpoint for External URL (which is the Public URL)
- Optionally configure May 2014 CU or later
- Check OAuth requirements (HTTP/HTTPS) against your endpoint
Requirements for one-way inbound (more)

• Configure a Target Application in Secure Store in SharePoint Online
  • Target Application ID: SecureChannelTargetApplication
  • Display Name: Secure Channel Target App
  • Credentials: Certificate + Certificate Password

• Set Credentials for Target Application
Configure a Reverse Proxy

- Supported: Windows Server 2012 R2 WA-P, TMG, F5 BIG-IP, Citrix Netscaler
  - Updated 15-05-2015

- General Requirements
  - Client certificate authentication (* or SAN certificate)
  - Pass-through authentication for OAuth 2.0
    - Including unlimited OAuth bearer token transactions
  - Accept unsolicited inbound traffic on TCP port 443 (HTTPS)
  - Bind a wildcard or SAN SSL certificate to a published endpoint
  - Relay traffic to an on-premises SharePoint Server 2013 farm or load balancer without rewriting any packet headers
Continues like one-way outbound ...
Hybrid Search One-Way Inbound

- Acting as a Global Admin for Office 365 tenant
- Configure a result source on SPO
  - Protocol: Remote SharePoint
  - Provide Remote Service URL as External URL of SP on-premises
  - Provide SSO Id for Credentials using «SecureChannelTargetApp»
- Configure a query rule on SPO
Two-Way Search
Two-Way topology

Microsoft data center

Office 365 tenant

SharePoint Online

Federated search results

Site collection

SharePoint Online can query SharePoint Server

Internet

Perimeter network

SharePoint Server 2013

• Search: Bidirectional
• Business Connectivity Services: Supported
• Duet Enterprise for SharePoint and SAP: Supported

Intranet

Customer network

SharePoint

Primary web app

Federated search results

SharePoint Server can query SharePoint Online

Outbound

On-premises SharePoint Server 2013 Enterprise Search portal and SharePoint Online search portal: Local and remote search results are available. If extranet authentication services are configured, extranet users can log in remotely through an on-premises Active Directory account and use all available hybrid functionality.
Union of one-way inbound and one-way outbound...
Other Hybrid Topologies
Available Topologies for BCS

• One-way inbound or Two-way
  • The SharePoint Online BCS service can connect to an on-premises SharePoint Server 2013 farm by using an app for SharePoint or an external list that is installed on a SharePoint Online site collection.
  • The BCS Service configured on the on-premises farm brokers the connection to on-premises OData Service endpoints and supports both read and write operations.
  • BCS hybrid solutions can be configured to support full CRUDQ (Create, Read, Update, Delete and Query) functionality.
• Requires a two-way authentication topology
• Requires OData services
Available Topologies for SAP Integration

• One-way inbound or Two-way
  • SharePoint Online users can perform both read and write operations against an on-premises SAP system. You can do this by either using an app for SharePoint that’s installed on a SharePoint Online site collection or by enabling a Duet Enterprise Online feature.
Other Services
Social Features and Capabilities

• Social capabilities can’t work across the two worlds
  • SharePoint 2013 on-premises and SharePoint Online are social «disconnected»
    • Users cannot act on documents in one world from the other one

• Yammer connects both SharePoint on-premises and SharePoint Online

• The Enterprise Social hybrid solution
  • Set Yammer as default social network engine
    • Both in Office 365 and in SharePoint 2013 SP1
  • Use the Yammer app to embed Yammer feeds wherever you need
OneDrive for Business

• You can leverage OneDrive for Business in Office 365
  • From SharePoint 2013 on-premises
  • Starting from SharePoint 2013 SP1

• Move the huge workload of users’ personal documents to the cloud
  • Allow users to access their personal documents anywhere, everywhere, and from every device (PC, laptop, tablet, smartphone)
SharePoint Online External Sharing

- Allows vendors, clients, customers to access online sites and data
  - External Users are not-licensed people
  - They will need a Microsoft Account or an Office 365 UserID
- Internal users can share documents and sites
  - Can share direct guest (friendly and short) links, as well
  - For anonymous access to individual documents
Records Management

- Use on-premises records archive
  - For records coming from SharePoint on-premises or SharePoint Online
- Configure «send to» connection in SharePoint Online
  - To send records to the on-premises archive
SharePoint 2016

What’s new with Hybrid Scenarios?
Hybrid Scenarios with SharePoint 2016

- At Ignite Conference they “promised”
  - A wizard-like hybrid configuration
    - No more 15 pages of PowerShell scripts 😊 ...
    - Just a few clicks and the hybrid topology will be ready to go
- Improved capabilities and features
  - Delve across premises
  - Complete integration of search results
- Cloud Search Service Application
  - For SharePoint 2013 and 2016 (and 2010)
  - To crawl on-premises and store indexes on the cloud
  - The future of search? Maybe ...
Summary

• Office 365 and SharePoint 2013 can work together
• Hybrid Search
  • One-Way Outbound
  • One-Way Inbound
  • Two-Way
• Hybrid BCS
• Hybrid SAP Integration
• Other Hybrid Services
• Office 365 and SharePoint 2016 will work even better together
Thank you!

Merci!