Playing Outside Your Sandbox

INTERACTING WITH OTHER SYSTEMS USING SHAREPOINT BCS

Sponsors

DEVFACTO
Software that humans love to use

- Special Thanks:

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- Blog: **http://prairiedeveloper.com**
- User Group: **https://www.meetup.com/SKSPOUG/**

Things we are going to cover

- What is BCS
- Why is it important
- Things I can do with it
- External Content Types
- BCS In the Cloud
- Searching External Data

So what is BCS?

BCS → Business Connectivity Services

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What is BCS?

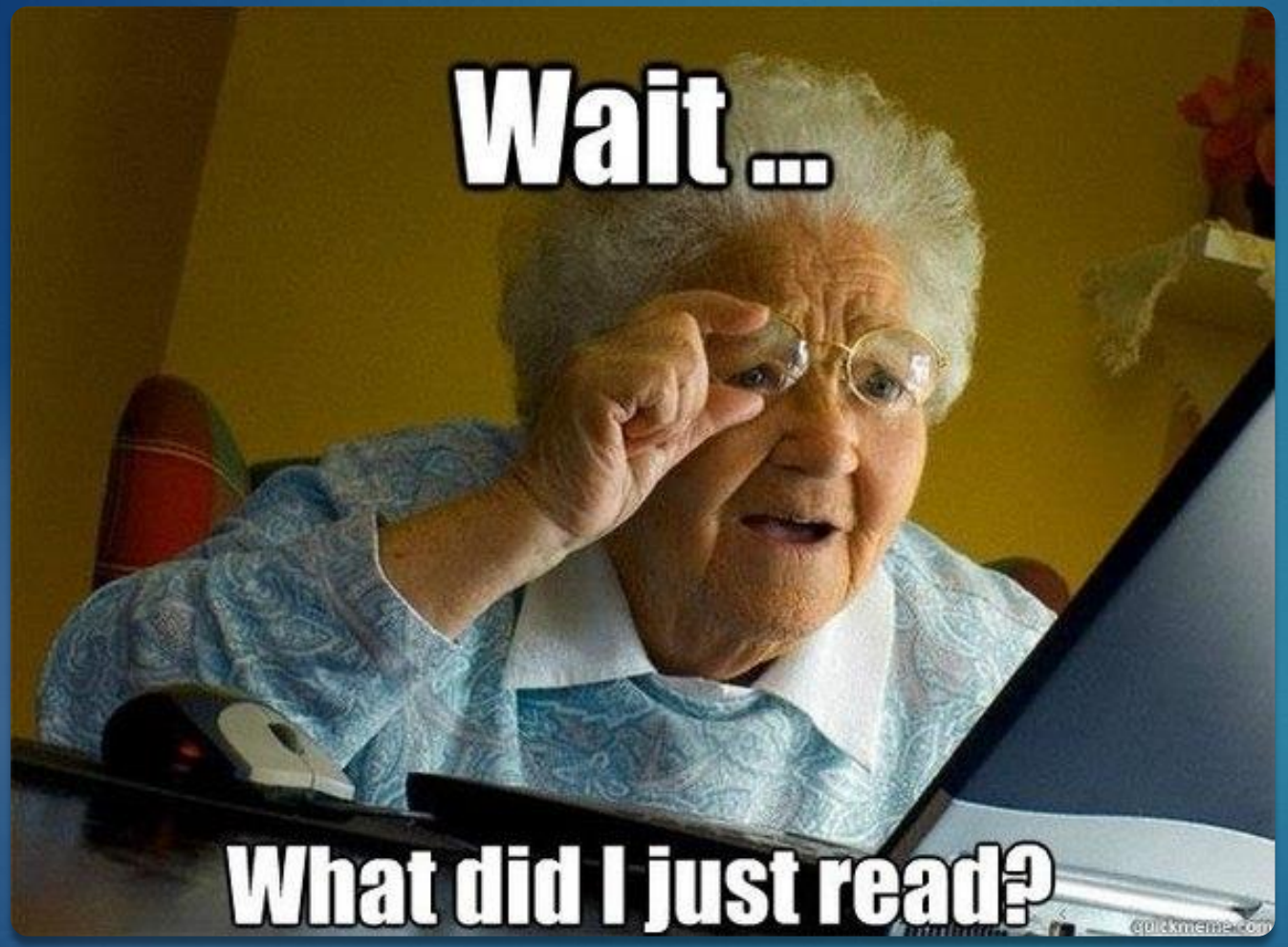
Microsoft Definition:

So what is BCS?

BCS → Business Connectivity Services

What is BCS?

"Business Connectivity Services is a centralized infrastructure in SharePoint and Office that supports integrated data solutions. With Business Connectivity Services, you can use SharePoint and Office clients as interfaces into data that doesn't live in SharePoint itself."

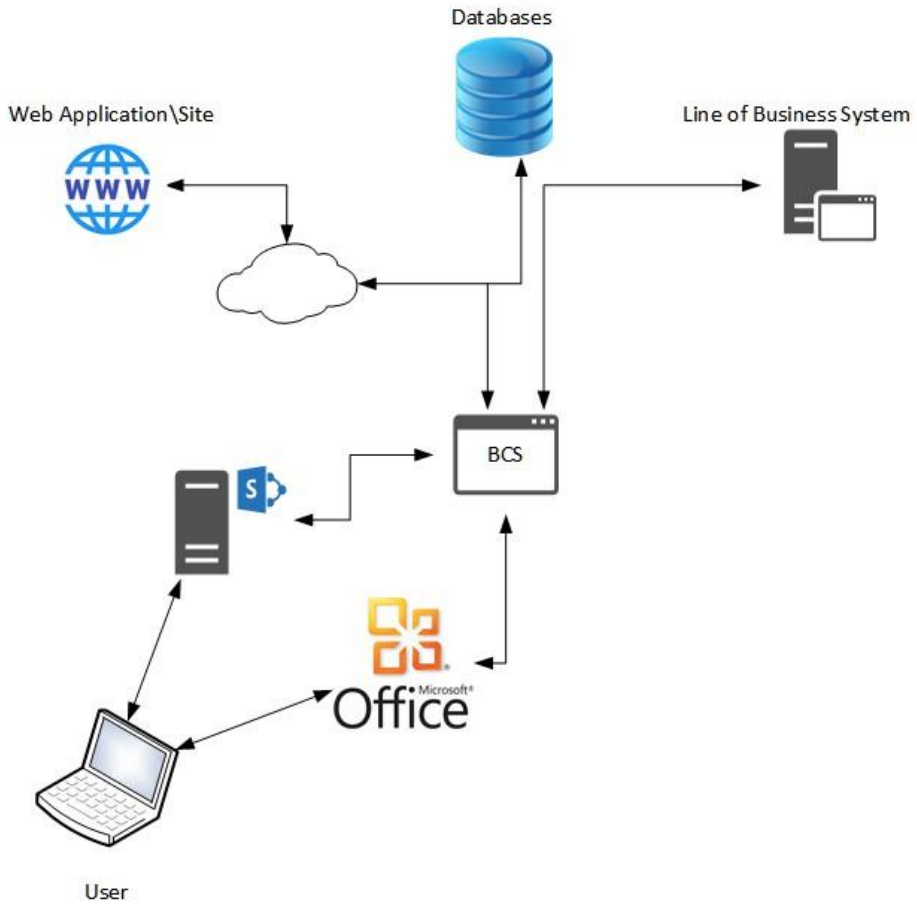


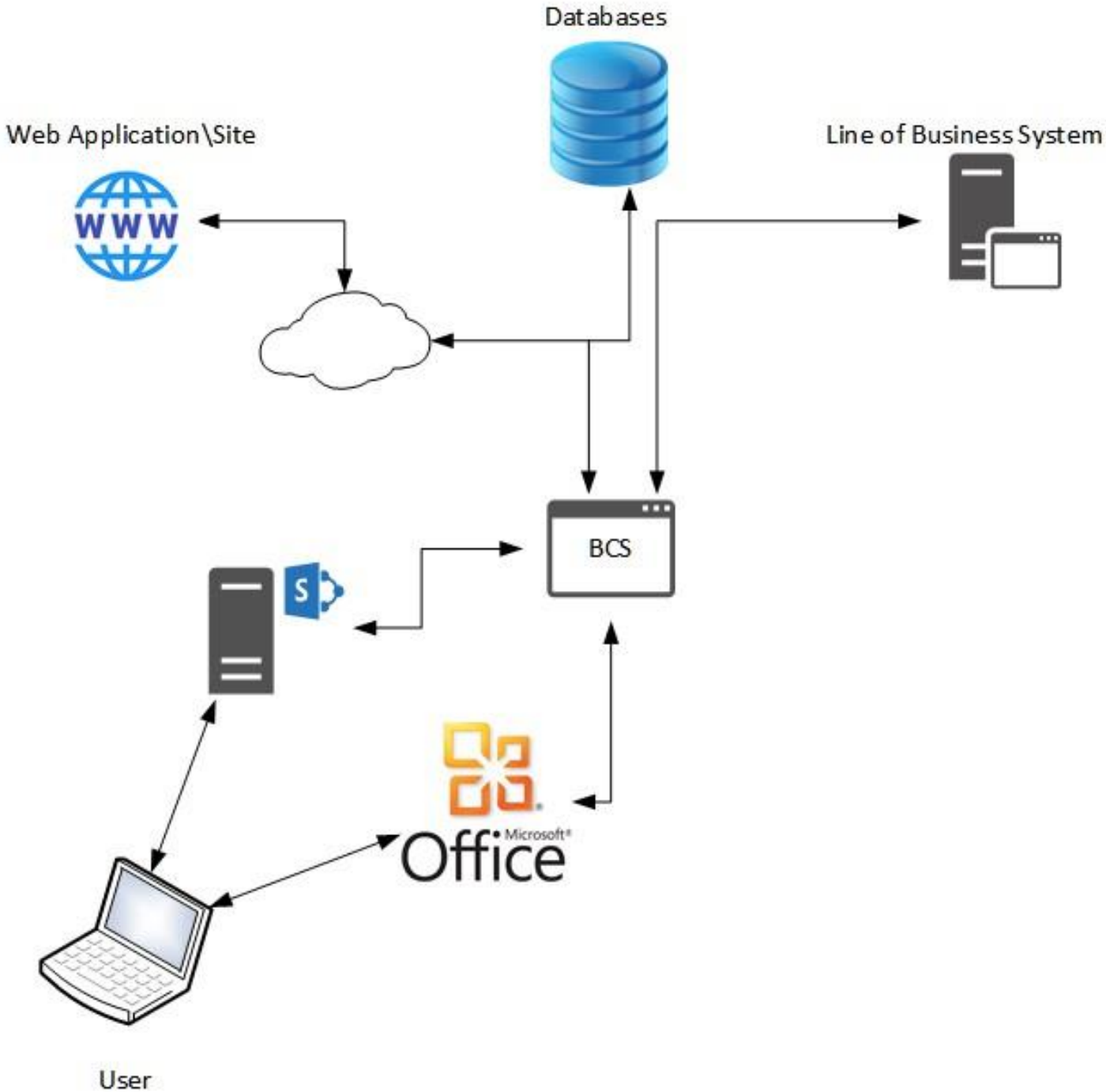
How about a little clarification?

What is BCS?

BCS is a service that SharePoint offers to enable it to connect with other systems and surface the data contained within them.

What is BCS?


Databases
Web Application\Site
Line of Business System
WWW
BCS
Office
User


Databases
Web Application\Site
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User

Why is BCS important?

- SharePoint is not meant to be a relational database, but it can surface data from there.
  - See http://bit.ly/SPRelationalDB for an explanation of why it is a bad idea
- Can act as an intermediary between users and Line of Business systems
- Can leverage SharePoint features like Workflows to work with data outside of SharePoint
- Use BCS and Secure Store service to consolidate access to external data sources into a few accounts instead of a huge number for each user.

So what can you get with *your* version of SharePoint?

- SharePoint Foundation (2013 and previous)
  - External List
  - Authentication to BCS sources via Secure Store service
  - That's it… so really not too much but for most that is enough.

So what can you get with *your* version of SharePoint?

- SharePoint Server\SharePoint Online Plan 1
  - Everything in Foundation plus…
  - **External List Alerts**
  - **App Scoped External Content Types**
  - Business Data Web Parts
  - **OData Connector**
  - Profile Pages

So what can you get with *your* version of SharePoint?

- SharePoint Server Enterprise Edition\SharePoint Online Plan 2\E3
  - All of the features from the SharePoint Standard plus…
  - Rich Client Integration
  - Tenant-level external data log

So What's So Great About BCS?

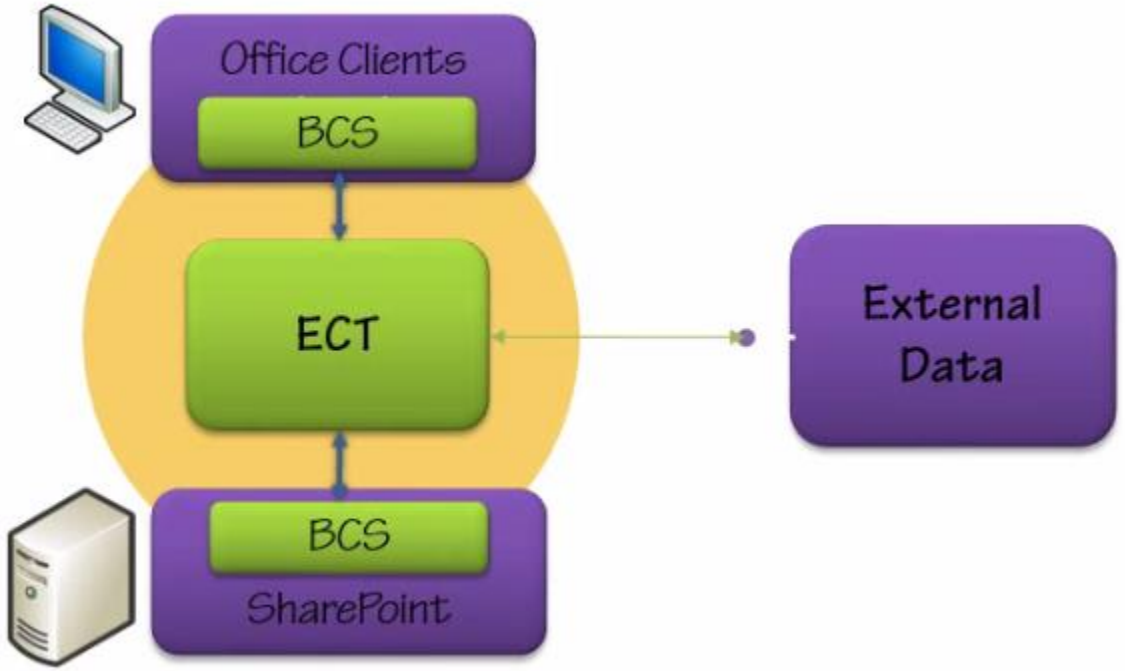
Extend the life of some client\server apps without a lot of development

Extend SharePoint Search to find information within external systems

Better user experience by exposing external data in apps people use constantly like Outlook

External Content Types

- The foundation of any BCS solution that can be built
- An ECT is the connection layer between SharePoint and the external data
- Maps the data in the external system to an object within SharePoint



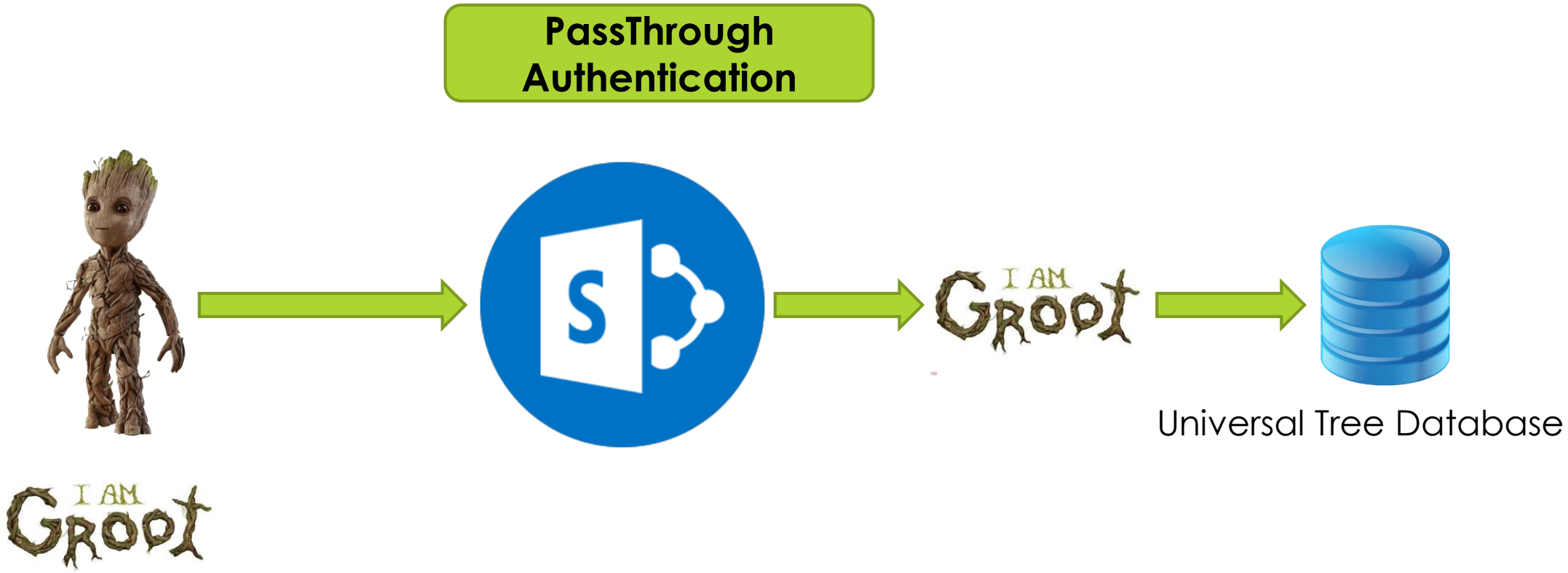
External Content Type

Commonly used to surface data in a SharePoint list that allows it to be viewed and manipulated.

Basically just an XML file that contains all the information that SharePoint needs.

Tells SharePoint what to do when CRUD operations are executed.

External Content Type Authentication



External Content Type Authentication

Revert To Self Authentication

I AM GROOT

SUPER BCS

Universal Tree Database

External Content Type Authentication

Windows Credentials Authentication

SharePoint
Secure Store Service

Active Directory

Universal Tree Database

External Content Type Authentication

RDB Credentials Authentication

SharePoint
Secure Store Service

GUARDIANS

Universal Tree Database

I AM GROOT

External Content Type Authentication

Credentials Authentication

SharePoint
Secure Store Service

GUARDIANS

WWW

Universal Tree Data Service

I AM GROOT

Demo: Setting up BCS Authentication

Demo: Creating an External Content Type

Demo: Creating an External List

Enough Generalities, Let's Talk SharePoint Online

SharePoint's BCS service in general works very well with SQL Databases

But…

Enough Generalities, Let's Talk SharePoint Online

SharePoint Online can only connect to Azure Databases

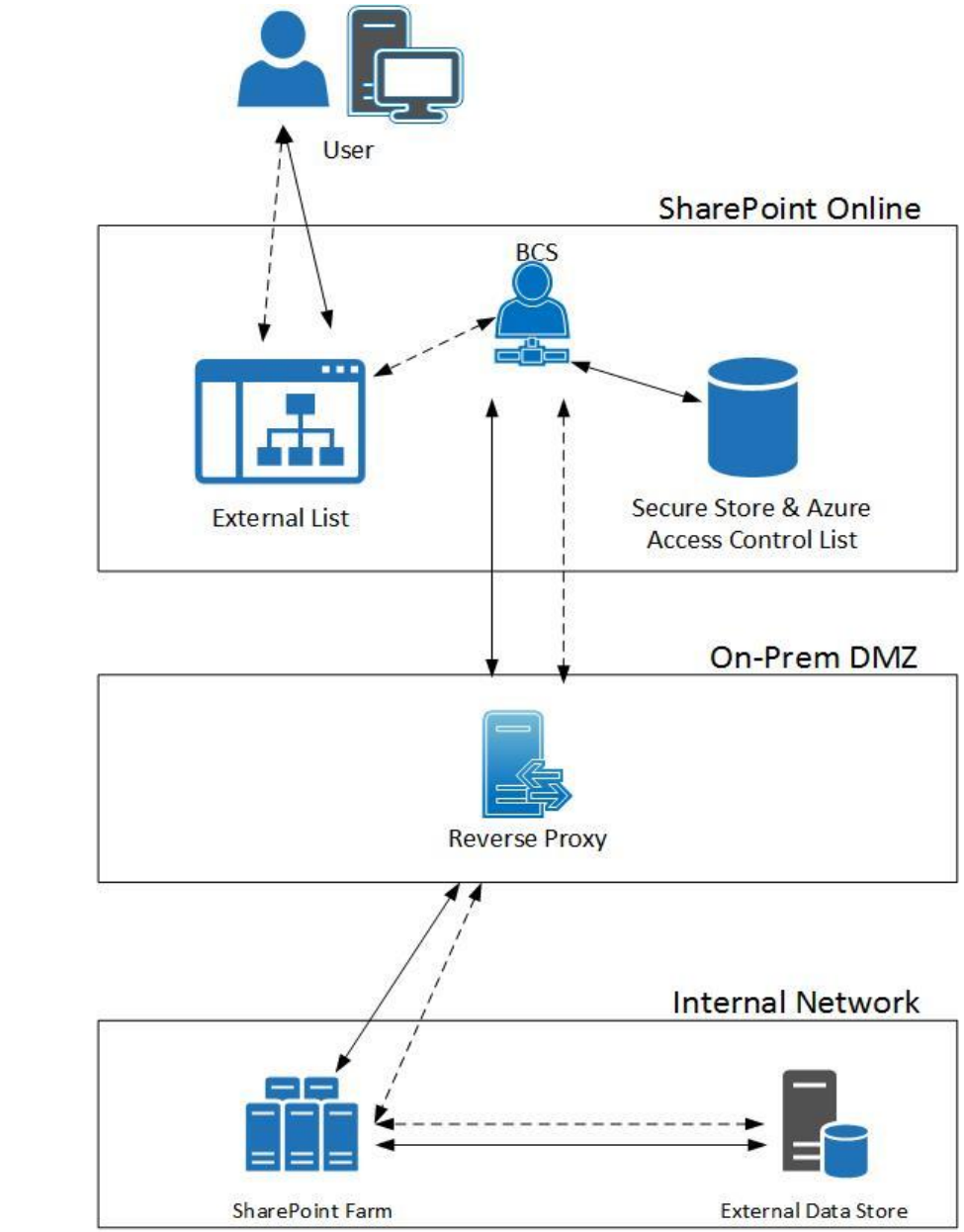
- To configure Azure DB for BCS connectivity please see:
  http://bit.ly/BCSAzureDB

BCS to On-Prem Data from SPO

Requires a hybrid environment

Still requires SharePoint on-prem

Requires and uses oAuth for authentication



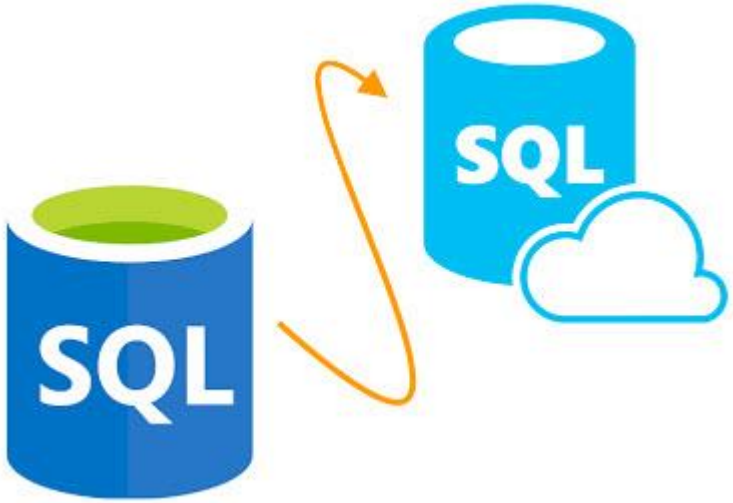
Based on diagram from: https://technet.microsoft.com/en-us/library/dn197239.aspx

Data Flow

Authentication Flow

Other Methods to Access On-Prem Data with BCS

Power BI\O365 Data Management Gateway



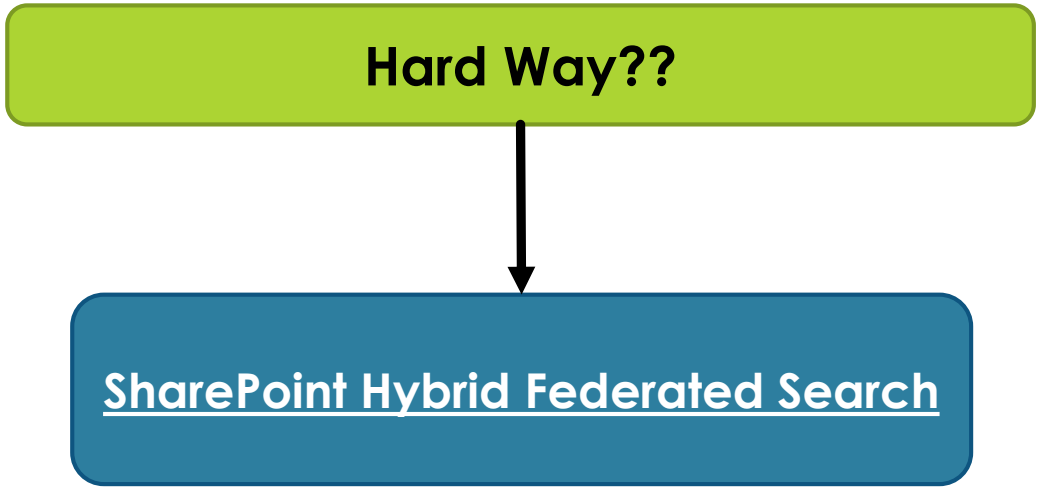
Azure SQL Data Sync

Crawling External Data in SharePoint Online

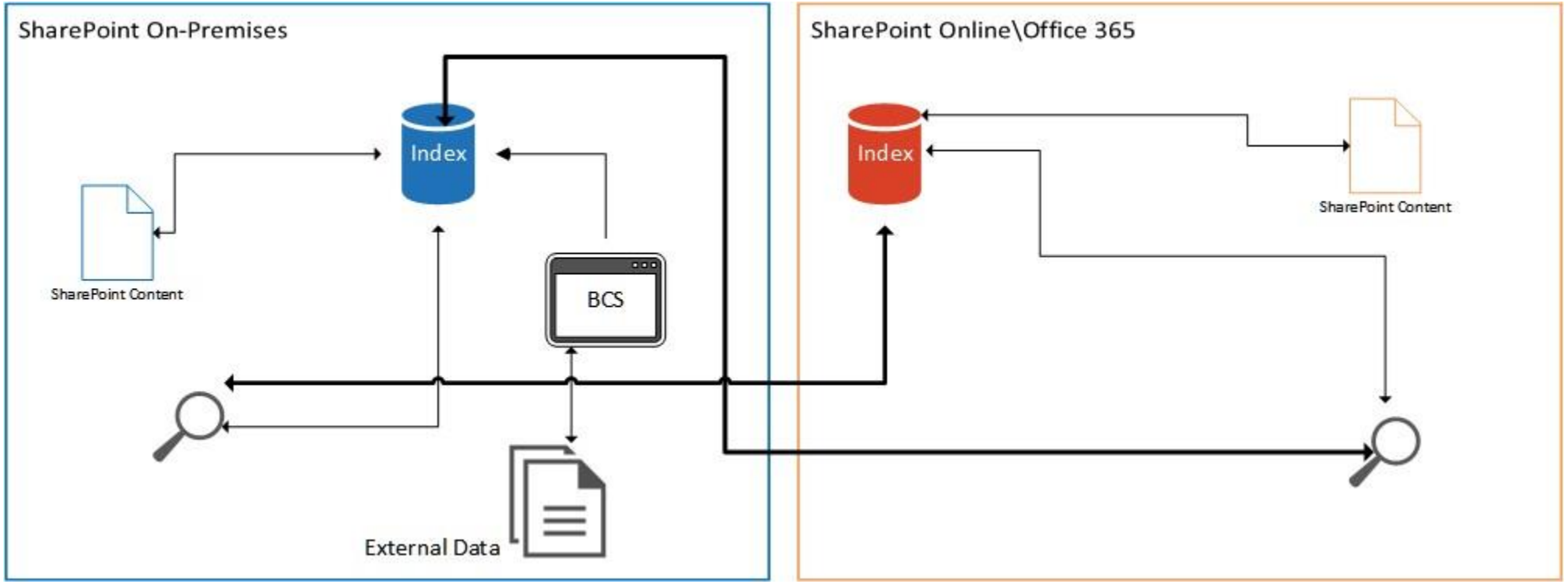
Two Ways to Accomplish SharePoint Online External Data Crawling

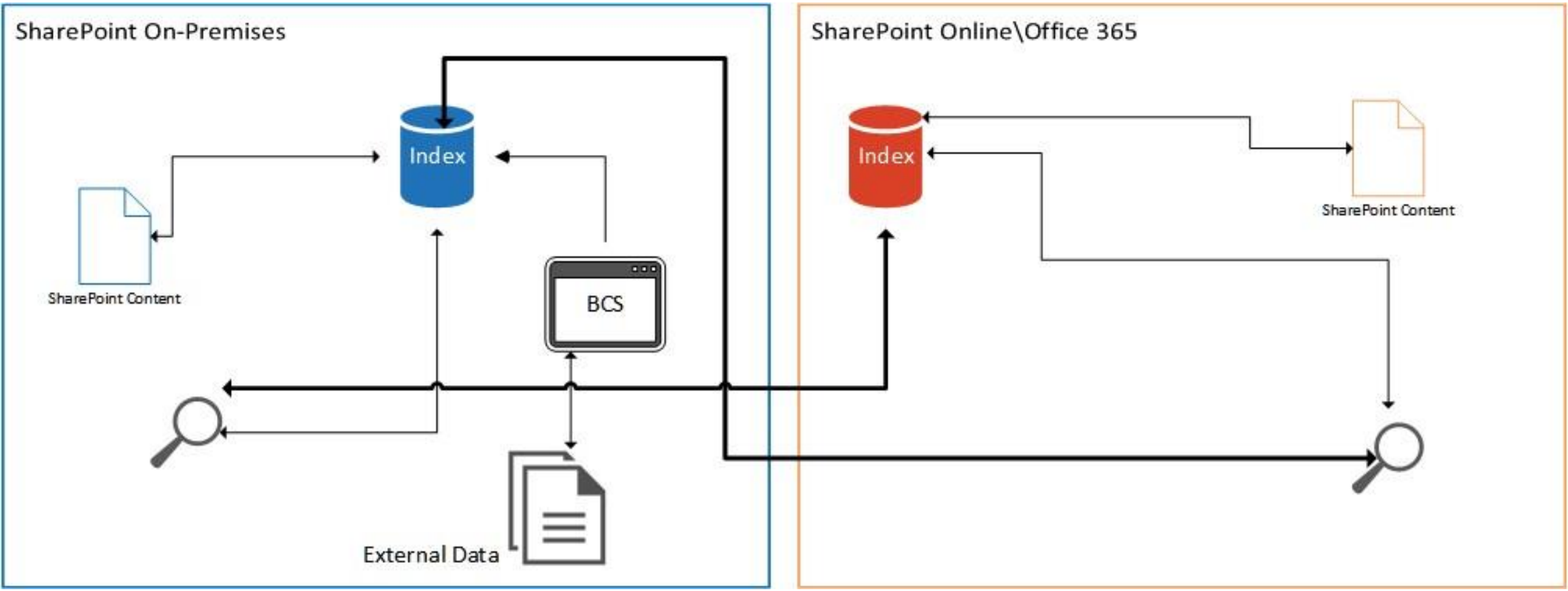
Crawling External Data in SharePoint Online

Crawling External Data in SharePoint Online



SharePoint Hybrid Federated Search

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SharePoint Content
BCS
External Data
SharePoint Online\Office 365
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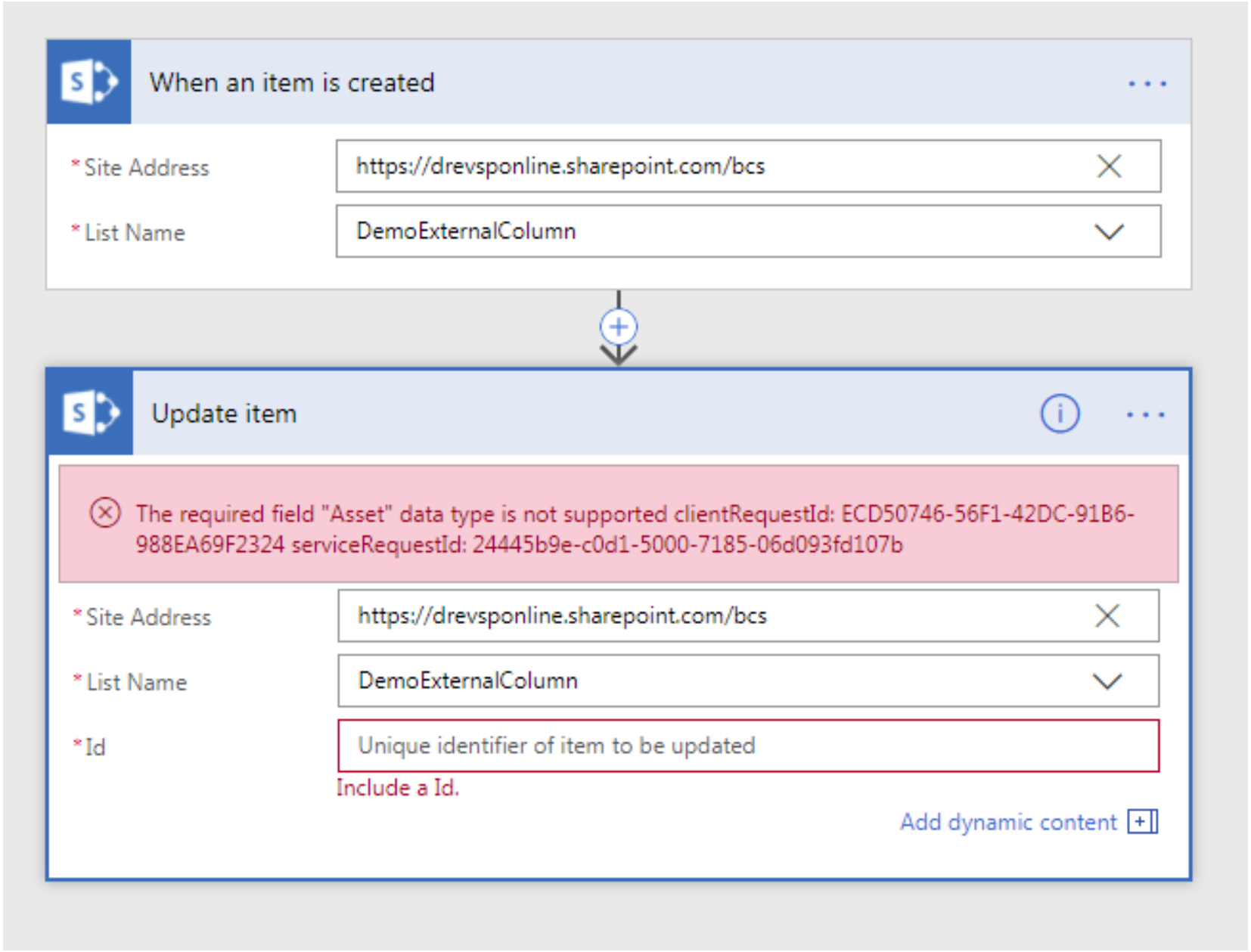
SharePoint Content

What About Workflows and BCS?

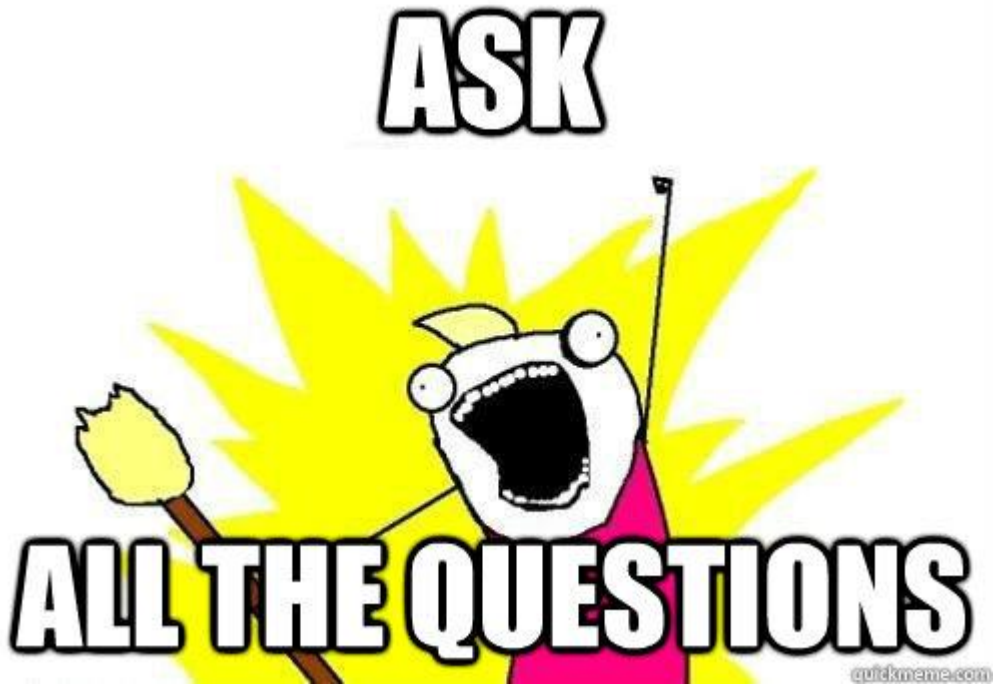
Both SharePoint Designer Workflows and Microsoft Flow cannot see External Lists

SharePoint Designer can read and utilize data stored in an external column.



What About Workflows on External Lists?

Question Period



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- Special Thanks:

Housekeeping

- Closing and Prize Draws at 3:55pm
  - Meet at 3:55pm at MacDonald Hall
- SharePint and Networking
  - Time: 4:30pm - 6:00pm, Location TBD

Thank You!!

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- Email: **david.drever@solvera.ca**
- Blog: **http://prairiedeveloper.com**