Fill out our survey and tell us how we did!
aka.ms/MIG/AdvancedQueriesWebinar

Microsoft Security

Building Advanced Queries for SharePoint Sites with Adaptive Policy Scopes

GEAR CAT TEAM

Brendon Lee
Sr Program Manager

Randall Galloway
Sr Program Manager

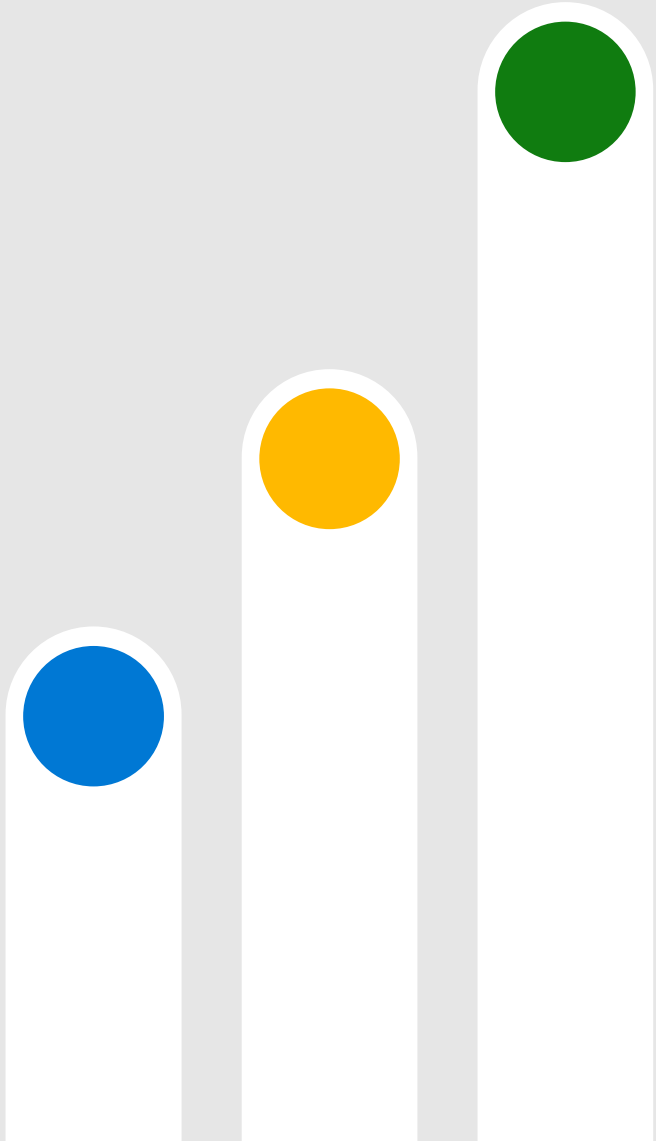
MVP

Joanne C Klein
M365 Advanced Compliance Consultant

Agenda

- Adaptive policy scopes
- Getting started with site scopes
- Using custom properties in SharePoint Online
- Demo
- Q&A

Fill out our survey and tell us how we did!
aka.ms/MIG/AdvancedQueriesWebinar



Adaptive policy scopes

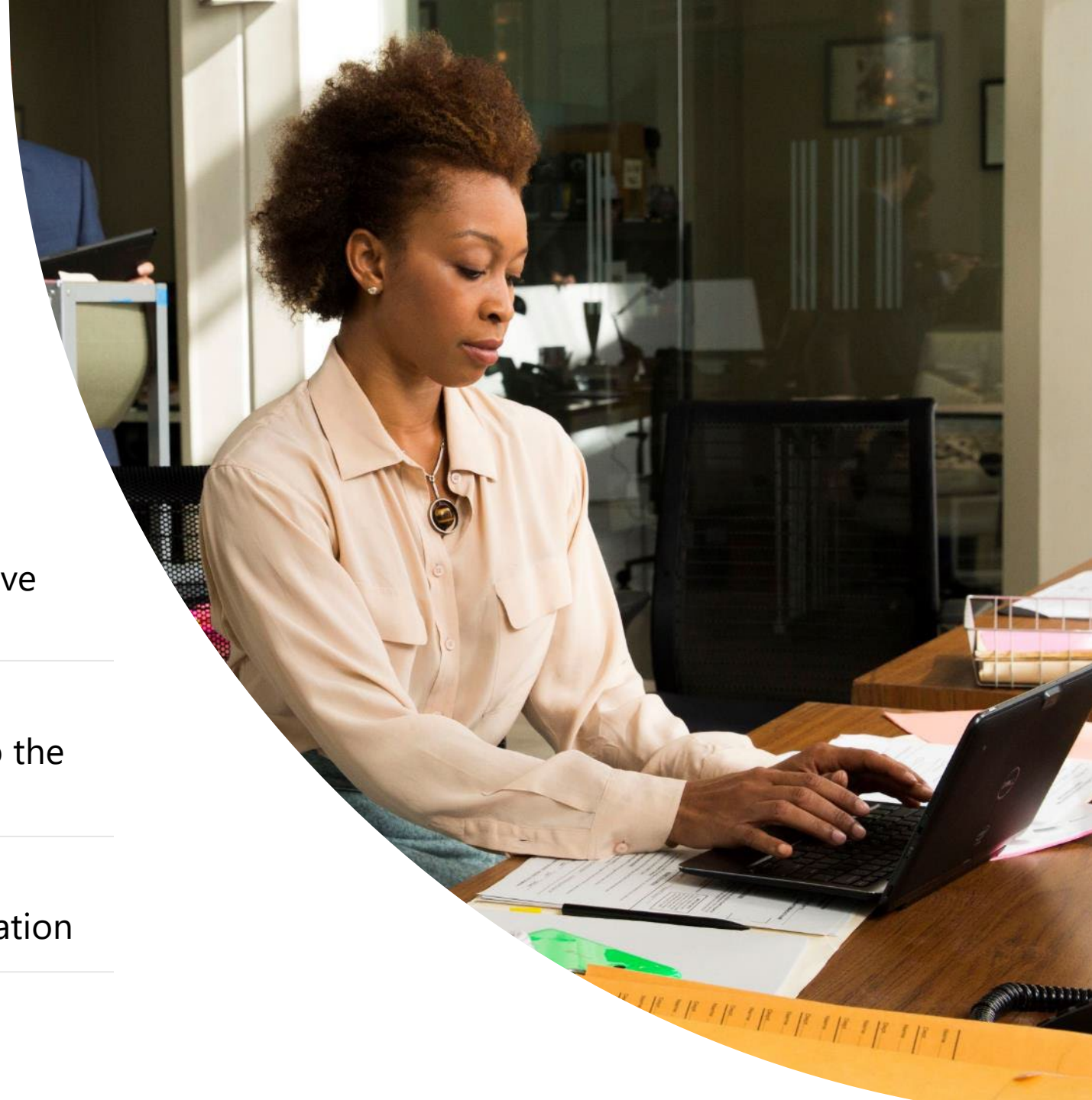
Adaptive policy scopes

Manage policy targeting with user, group, or site attributes

Automatic updates
Policies stay current as users join and leave roles

No more per-policy limits
Adaptive policy scopes are not subject to the previous include/exclude limits

New policy lookup
Understand which policy applies to a location



Microsoft Security

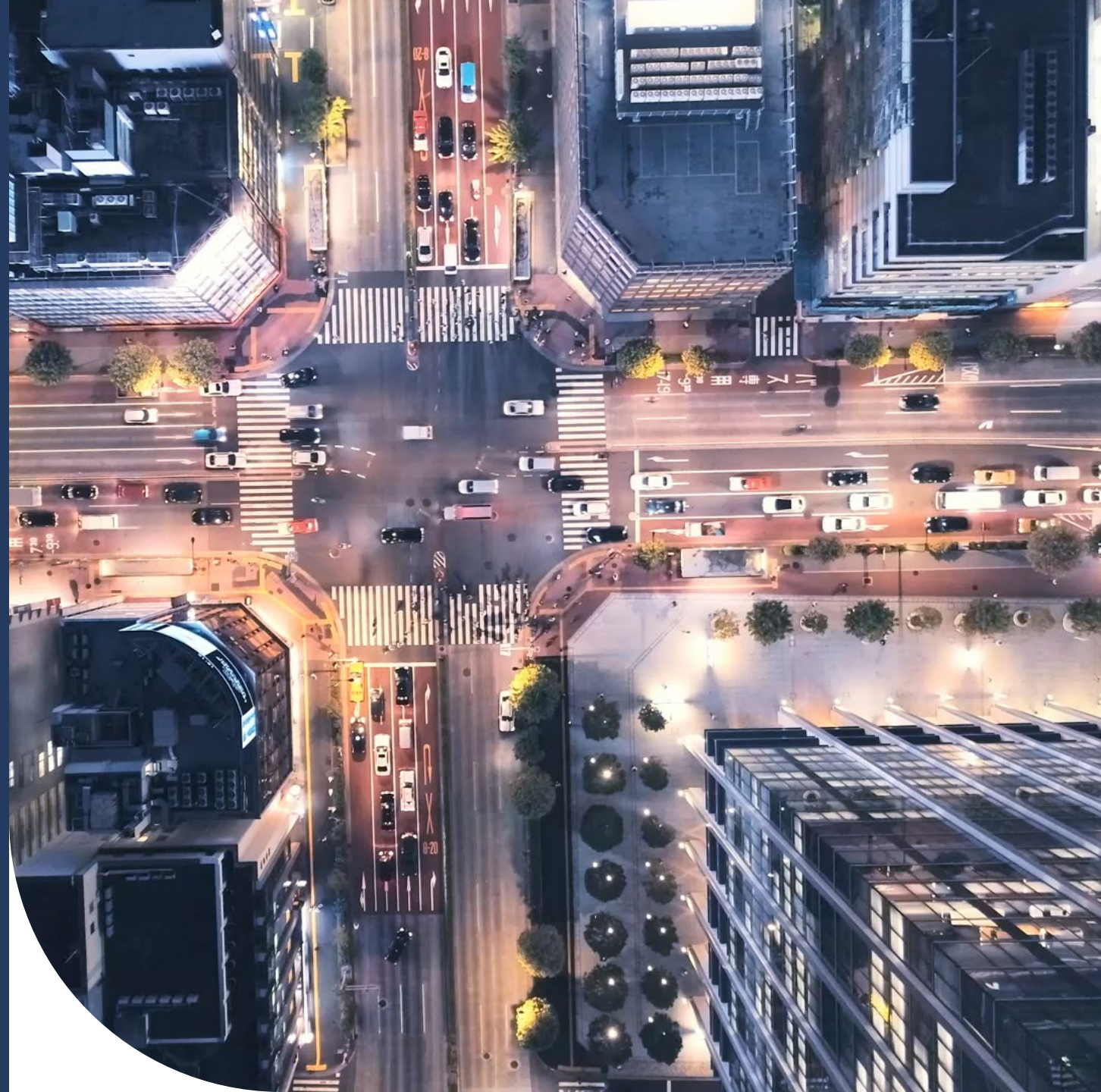
Previous Webinars

Adaptive Policy Scopes Introduction Webinar

aka.ms/Adaptive-Webinar-EMEA-US

Building Advanced Queries for Users and Groups with Adaptive Policy Scopes

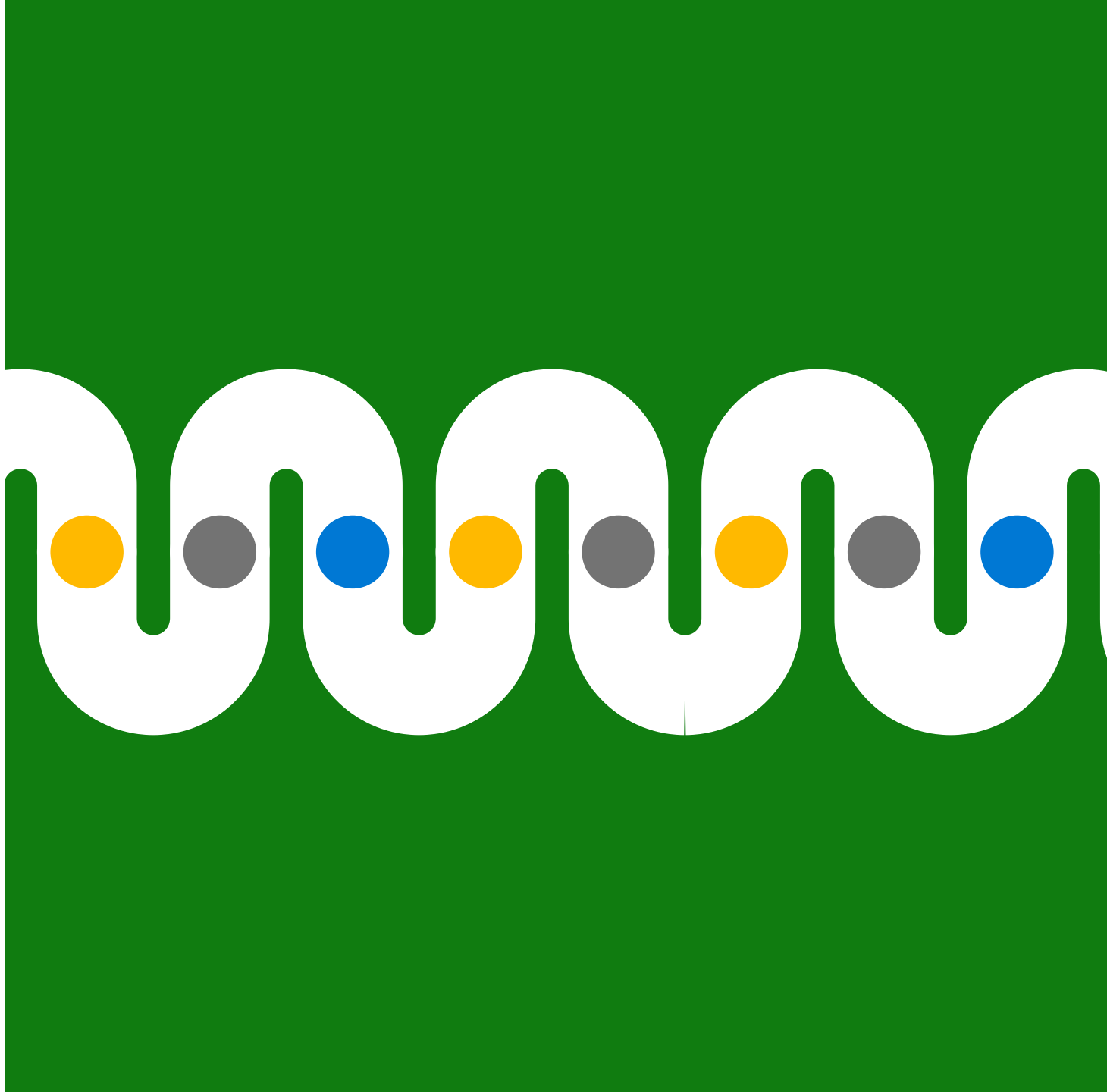
aka.ms/AdaptiveScopes-UsersGroups



Creating an adaptive scope

for

SharePoint Sites



Adaptive scope types

Azure Active Directory

Users

- Name
- Title/Role
- Department
- Location/Region
- Company
- Custom properties

** Properties are synced from on prem with hybrid configuration*

M365 Groups

- Name
- Email Address
- Description
- Custom properties

SharePoint Online

- Site name
- Site URL

** Plus, additional properties you can configure*

Without custom properties…
SharePoint sites lack identifying properties

With custom properties…
You can identify sites based on virtually anything

- Department
- Region
- Expiration Date
- Site type
- M365 Group/Team Connected

Use cases for SharePoint adaptive scopes

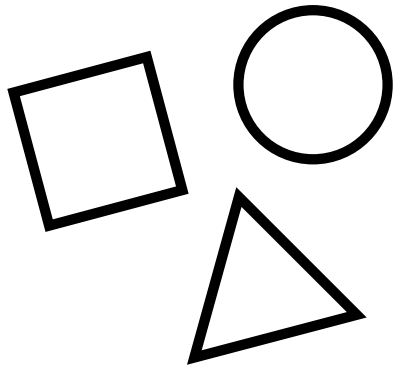
Publish Project retention labels to Project sites

Apply retention policy A to SharePoint sites for the EU region

Apply retention policy B to SharePoint sites for the NA region

Auto-apply retention labels to concluded Legal Matter sites

Getting started with creating a SharePoint site adaptive scope*



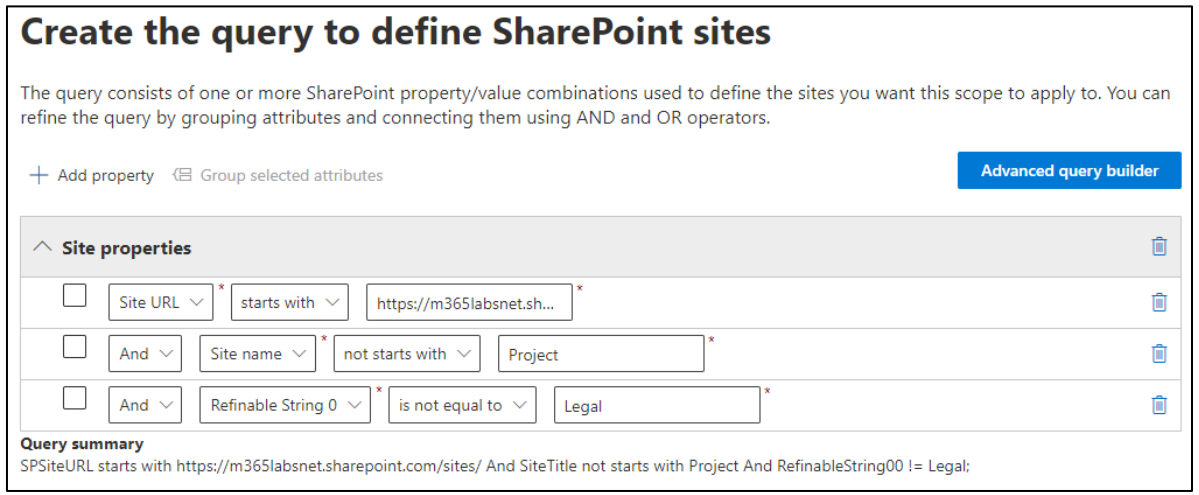
- What are the retention requirements?
- How can we identify the sites?
  - *Does this correlate to our new/existing SharePoint site architecture?*
  - *Can we integrate this into our site provisioning process?*
- Choose between Simple or Advanced Query builder
  - *Are you familiar with the SharePoint search index and how managed properties work?*
  - *Are you familiar with Keyword Query Language (KQL)?*

**Possibly more upfront work required vs User/Group adaptive scopes*

Pros and cons: Simple query builder

Pros

- Easy to create a simple adaptive scope
- No knowledge of KQL needed; query is built via a series of drop down menus:



Cons

- Complicated queries can be difficult to configure
- No built-in query validation
- Limited properties, operators, and grouping
- Query stored in JSON, so difficult to read and understand in PowerShell:

```
{"Conditions":[{"Value":"https://m365labsnet.sharepoint.com/sites/","Operator":"StartsWith","Name":"SPSiteURL"},{"Value":"Project","Operator":"NotStartsWith","Name":"SiteTitle"},{"Value":"Legal","Operator":"NotEquals","Name":"RefinableString00"}],"Conjunction":"And"}
```

Pros and cons: Advanced query builder

Pros

- Uses KQL like many other M365 solutions (SharePoint search, Content Search, eDiscovery, auto-label, etc)
- More flexibility in queries:
  - Supports additional properties
  - Supports additional operators
- Simple to validate queries
- Better for identifying what the scope does both in the GUI and in PowerShell

Cons

- Can be difficult to initially understand without previous KQL experience
- Syntax rules can be tricky:
  - aka.ms/kql-syntax
- Currently no query validation built into the feature*

* We have a solution though!

```
PS C:\Users\brenle> (Get-AdaptiveScope TestSite-Advanced).RawQuery
SPSiteUrl:https://m365labsnet.sharepoint.com/sites/* AND NOT RefinableString00:Legal AND NOT
 sitename:Project*
```

Simple Query Builder vs Advanced Query Builder

SUPPORTED PROPERTIES

Type	Locations supported	Simple Query Builder	Advanced Query Builder
Sites	• SharePoint Online site • Microsoft 365 group-connected site • OneDrive site	• Site name • Site URL • RefinableString00-99	Same as Simple Query Builder *plus*... • RefinableString100-199 • RefinableDate00-19 • RefinableInt00-49 • Created • *And more!*

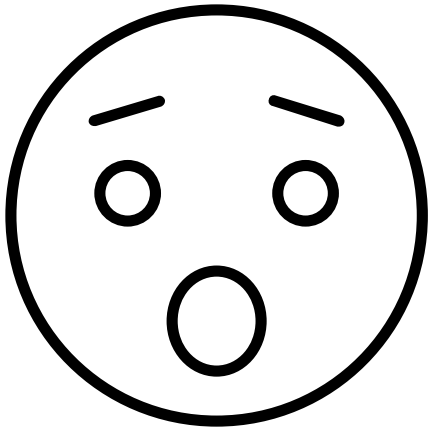
OPERATORS

Simple Query Builder		Advanced Query Builder		
• Is equal to • Is not equal to • Starts with • Not starts with		• = (equals) • : (contains) • * (wildcard) • <> (not equal)	• < (less than) • > (greater than) • <= (less than or equal) • >= (greater than or equal)	
AND	OR	AND	OR	NOT

RESERVED KEYWORDS

Advanced Query Builder			
• today • yesterday	• this week	• this month • last month	• this year • last year

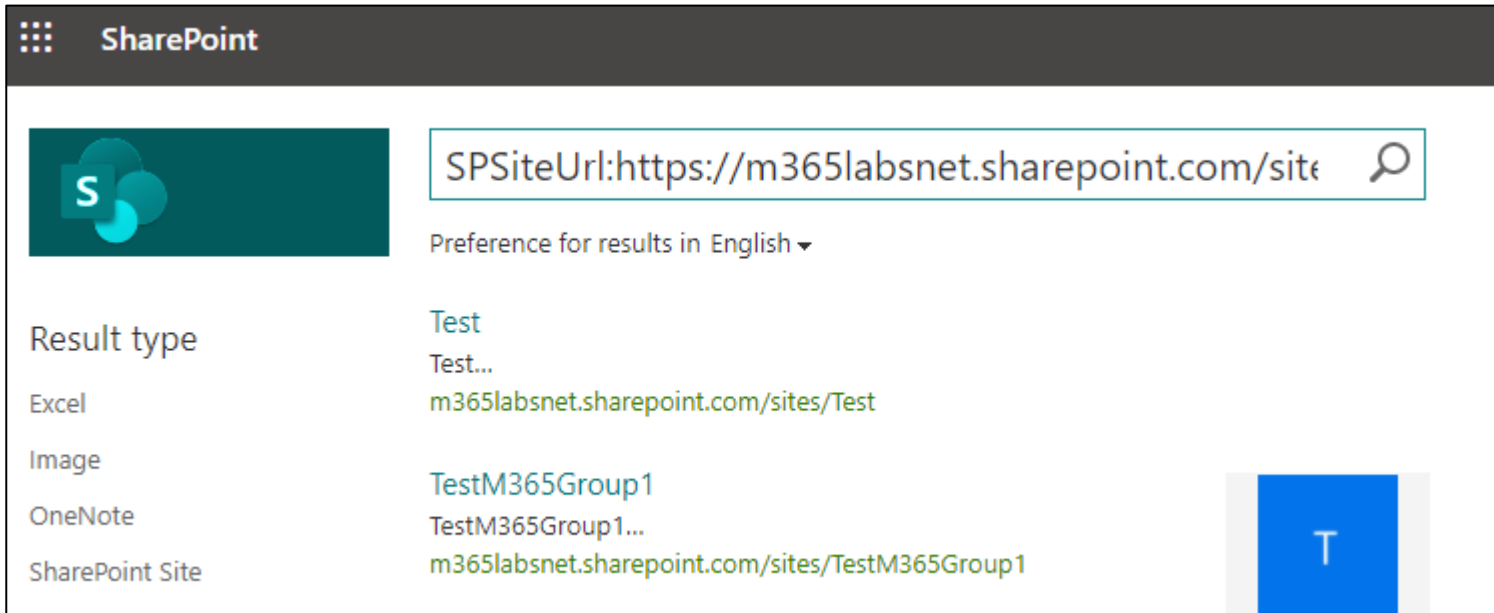
What to look out for



- SharePoint Site Scopes include OneDrive and Microsoft 365 Group sites by default
  - If they should be excluded, make sure that is built into the query
  - Example – To exclude OneDrive:
    - `SPSiteURL starts with https://tenant.sharepoint.com/sites`
- *Explicit* queries are better than *implicit*
  - Explicit = only include sites that **have** this property
  - Implicit = include all sites that **don't have** this property
    - Can unintentionally include sites that weren't considered, especially as new ones continue to be created
- Follow KQL syntax rules: aka.ms/kql-syntax

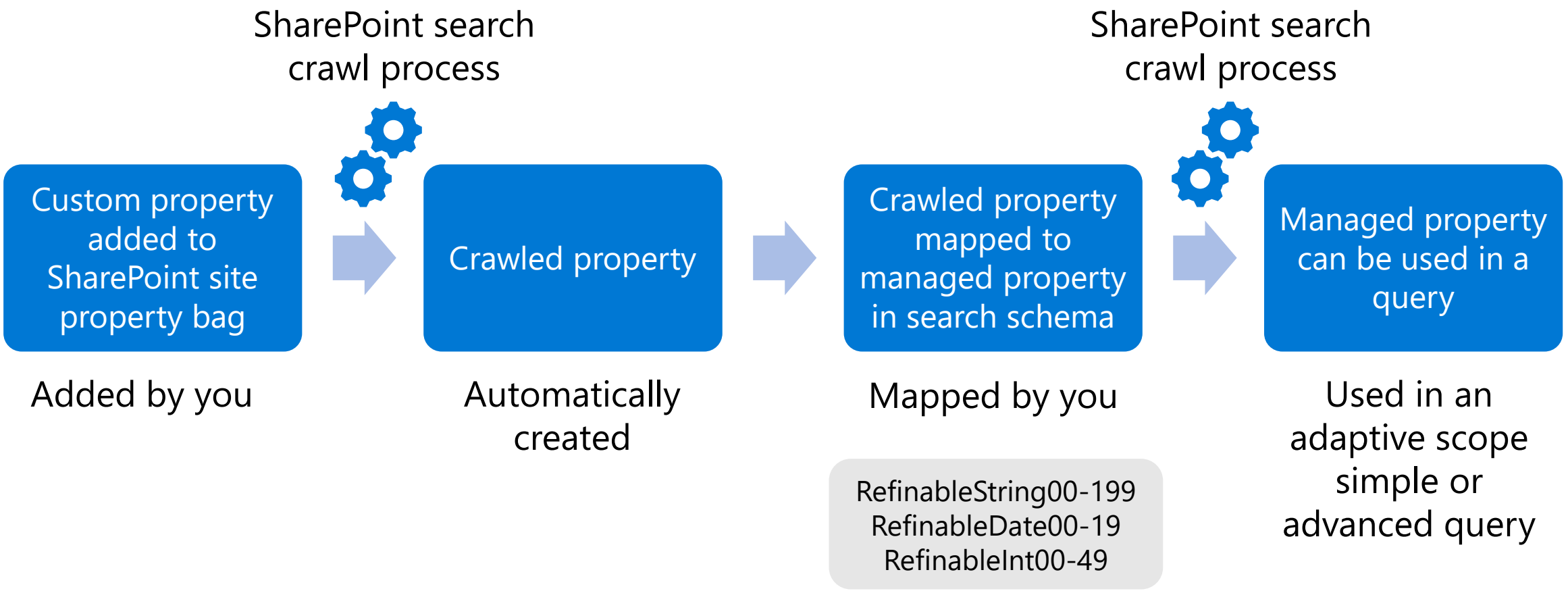
Validating advanced queries with KQL

- Validate your query with any search option that targets *sites* – for example:
  - https://[tenant].sharepoint.com/Search



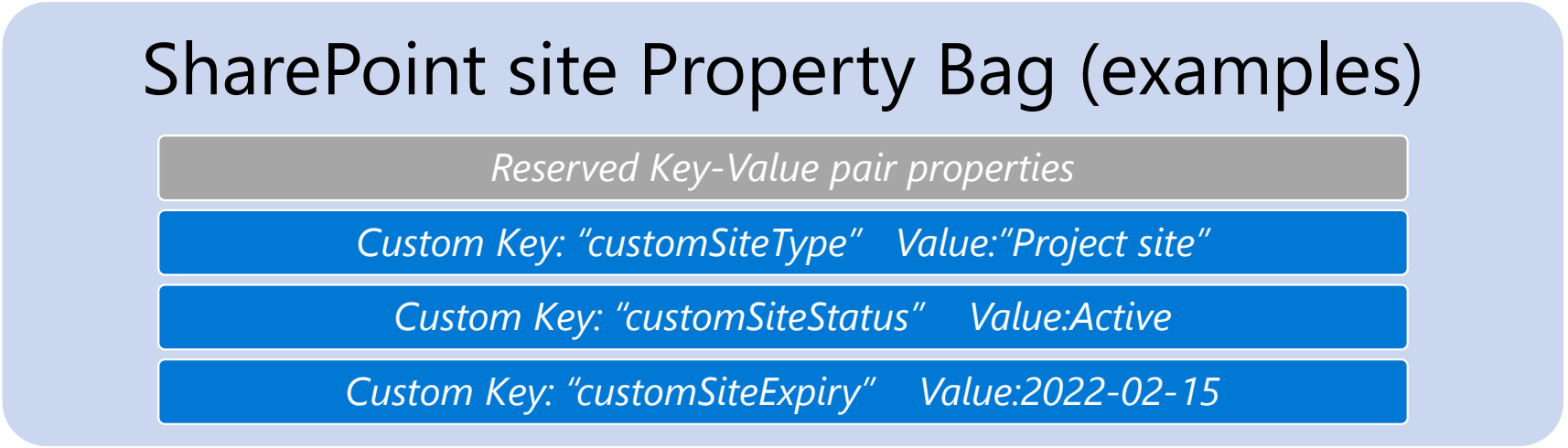
Understanding SharePoint site custom properties

SharePoint site custom properties



What is the site property bag

- A set of Key-Value pairs associated with a SharePoint site
- You can add custom Key-Value pairs for custom site configurations
  - Many custom site provisioning solutions use the site property bag
- They can be set thru PowerShell
- Adaptive Scopes can include/exclude SharePoint sites based on their property bag values



Crawled property to a managed property

- a custom property in a site's property bag automatically creates a tenant-level crawled property
  - *E.g., customSiteType custom property added to a site's property bag creates a crawled property of customSiteType*
- to query on the property (required for an adaptive scope), the crawled property must be mapped to a pre-built, queryable managed property in the tenant-level search schema
- when mapping, select a queryable managed property matching the data type of the custom property you want to query

Managed Property	Data Type	Operators	Example query
RefinableString00-199	String	= : <> *	RefinableString00=“RetentionRequired”
RefinableInt00-49	Integer	= : <> * > >= < <=	RefinableInt00>1
RefinableDate00-19	DateTime (ISO 8601)	= : <> * > >= < <= reserved keywords	RefinableDate00>=today

Tenant-level SharePoint search schema:

- https://[TenantName]-admin.sharepoint.com/_layouts/15/searchadmin/TA_listmanagedproperties.aspx?level=tenant

Querying with the managed property

- once a managed property is mapped, the SharePoint search index must be refreshed by the search crawl process before you can query on the managed property
  - This will occur automatically, but it may take some time
  - To self-initiate a re-index from SharePoint:

    Site settings… Search… Search and offline availability… Reindex site
- You can now validate your search query
  - Example query: *RefinableString01:"Project site"*

Tips:

- This mapping process only needs to be done once per custom property

- As custom properties are updated on SharePoint sites, the search crawl process must occur on the site before the search index will reflect the updated values

Adding custom properties to your sites

Existing sites – the basics

- SharePoint Patterns & Practices (PnP) PowerShell module* has been updated (v 1.9.0+) with a new set of cmdlets to manage properties:

1. Install the module: `Install-Module PnP.PowerShell`

2. Choose a site, connect *interactively* (first time only), authenticate, & give administrative consent to the AAD application:
   - `Connect-PnPOnline –Url <SPOSiteUrl> -Interactive`

3. Add/remove your custom property:
   - Add property: `Set-PnPAdaptiveScopeProperty –key <KeyName> –value <KeyValue>`
   - Remove property: `Remove-PnPAdaptiveScopeProperty –key <KeyName> [–force]`

4. Verify: `Get-PnPPropertyBag`

IMPORTANT
You must be a site collection admin

* PnP PowerShell is a community-driven and open source project therefore is not officially supported by Microsoft

Existing sites – multiple sites

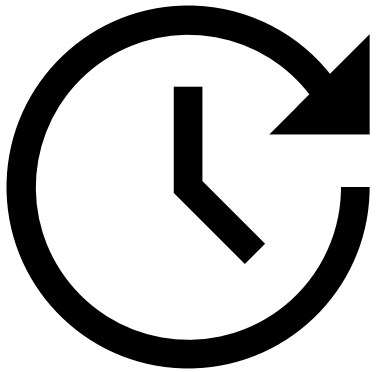
- PnP cmdlets can be scripted to allow minimum administrative effort when updating existing sites
- Since PnP must connect to each site to access the property bag, PnP provides several options for unattended authentication:
  - aka.ms/pnpauth
- We also created a collection of example scripts:
  - aka.ms/BulkPropertyBagScripts

```
PS C:\git\MIGScripts\SPO-OD\AdaptiveScopes-PropertyBag> .\Add-BulkPropertyBagValues -csvFile c:\temp
\SPOSitesExport.csv -customKeyToAdd 'customTest' -storedCredential "adaptivescopesvalidation"

 Processing site 41 : https://adaptivescopesvalidation.sharepoint.com/sites/Boss
    Total Sites: 153; Completed: 6; Failed: 15; Skipped: 19
    [ooooooooooooooooooooooo
```

```
PS C:\git\MIGScripts\SPO-OD\AdaptiveScopes-PropertyBag> .\Add-BulkPropertyBagValues -csvFile c:\temp
\SPOSitesExport.csv -customKeyToAdd 'customTest' -storedCredential "adaptivescopesvalidation"
Total Sites: 153
Completed Sites: 10
Failed Sites: 15
Skipped Sites: 128
There were failures and/or skipped sites.  Check c:\temp\Add-BulkPropertyBagValuesLog-20220114T17574
43342.csv for more info.
```

What about future sites?



- Automate custom property creation and configuration for future sites
- Consider implementing a site provisioning solution or integrating the custom properties you need into an existing provisioning solution
- One option for provisioning is using PnP
  - PnP provisioning framework:
    - aka.ms/PnP-ProvisioningFramework
  - PnP provisioning engine:
    - aka.ms/PnP-ProvisioningEngine

Demo

The Scenario

- Need policies that can apply retention to **active/inactive corporate** projects
- Company is broken up into **business units** identified by department codes:

Business Units	Department Codes
EXECUTIVE	0-99
CORPORATE	**100-199**
RETAIL	200-299

- Polices must apply to **corporate projects** only
- Must **not apply** to sites that are **not associated with a project**
- Retention **requirements**:
  - **Active** projects must retain indefinitely
  - **Inactive** projects must retain for 5 years (last modified), then delete
- Start with **Project Wallaby**:
  - **Department**: Engineering
  - **Department Code**: 121
  - **Project End Date**: January 1, 2023

The Plan

SharePoint Online Config:

- Create 3 custom properties
- Map to 3 managed properties

Custom Property	Value	Type	Managed Property
customSiteType	project	String	RefinableString01
customDepartmentCode	121	Int	RefinableInt01
customEndDate	2023-01-01	DateTime	RefinableDate01

Adaptive Scopes:

- *Active Corporate Projects*:
  - RefinableString01=project
  - RefinableInt01<=199
  - RefinableInt01>=100
  - RefinableDate01>=today
- *Inactive Corporate Projects*:
  - RefinableString01=project
  - RefinableInt01<=199
  - RefinableInt01>=100
  - RefinableDate01<today

Retention Policy 1:

Scope:
Active Corporate Projects

Retention:
Forever

Retention Policy 2:

Scope:
Inactive Corporate Projects

Retention:

- 5 Years
- Based on Last Modified
- Delete after retention

Resources

Blog
https://aka.ms/MIG/Blog

Videos
https://aka.ms/MIG/Videos

Webinars
https://aka.ms/MIG/Webinars

Documentation
https://aka.ms/MIG/Documentation

Survey (for this webinar)
https://aka.ms/MIG/AdvancedQueriesWebinar

Adaptive Scopes Public Preview Release Webinar
https://aka.ms/Adaptive-Webinar-EMEA-US

Thank you

Fill out our survey and tell us how we did!
aka.ms/MIG/AdvancedQueriesWebinar

Microsoft Security