DevDays Asia 2016

Discover Microsoft Graph

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Microsoft

Reinventing productivity

Transform the way people and organizations work to achieve more

Transition to the cloud

Deliver new productivity experiences on mobile

Build a modern productivity ecosystem

Reinventing productivity

Mobility of experiences

Collaborative productivity

Intelligence everywhere

Trusted at all times

"The most strategic developer surface area for us is Office 365.“

—Satya Nadella

Microsoft

Developer opportunity

USERS

1.2B
Office users

Strong
presence
in enterprise

50K+ new O365
small businesses
per month

340M
downloads of
Office mobile

DATA

4T+ emails sent with
O365 per month

3B minutes of
Skype calls daily

1B+ meetings
created per month

INTELLIGENCE

Microsoft Graph API calls
420% monthly growth

Developer opportunity

Platform opportunities available today

Build intelligent apps by connecting to Office services

Make your solution part of Office apps

Engage users through conversations

What is Microsoft Graph?

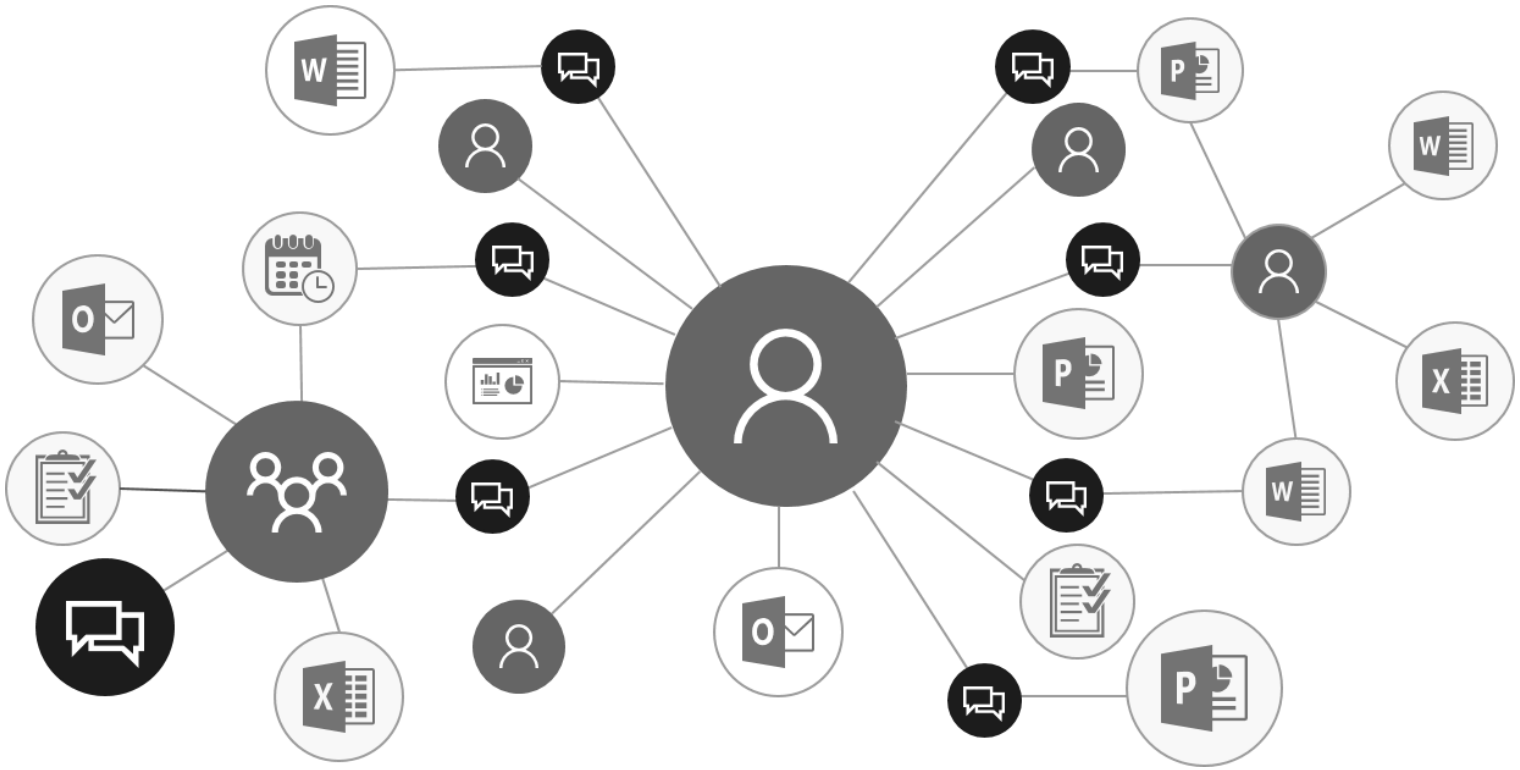
Single endpoint for:

1 **ACCESSING DATA**
/me, /users, /groups, /messages, /drive, ….

2 **TRAVERSING DATA**
/drive/items/<id>/ lastmodifiedByUser

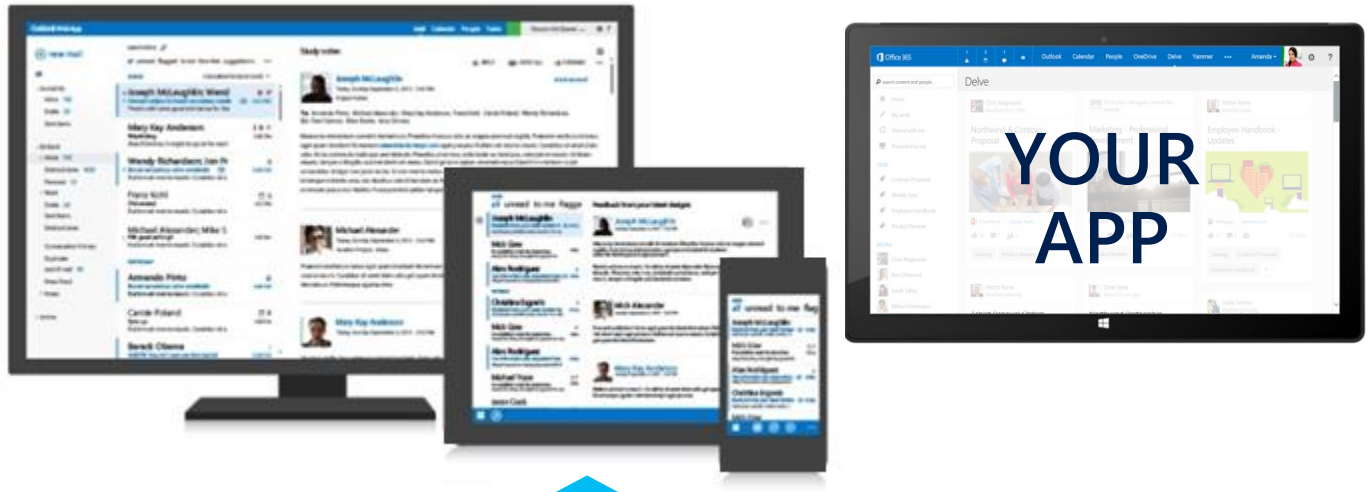
3 **ACCESSING INSIGHTS**
/insights/trending

4 **WORK/SCHOOL AND PERSONAL**



HTTPS://GRAPH.MICROSOFT.COM/

Microsoft Graph is your gateway to Office 365



HTTPS://GRAPH.MICROSOFT.COM/

Users

Groups

Files

Mail

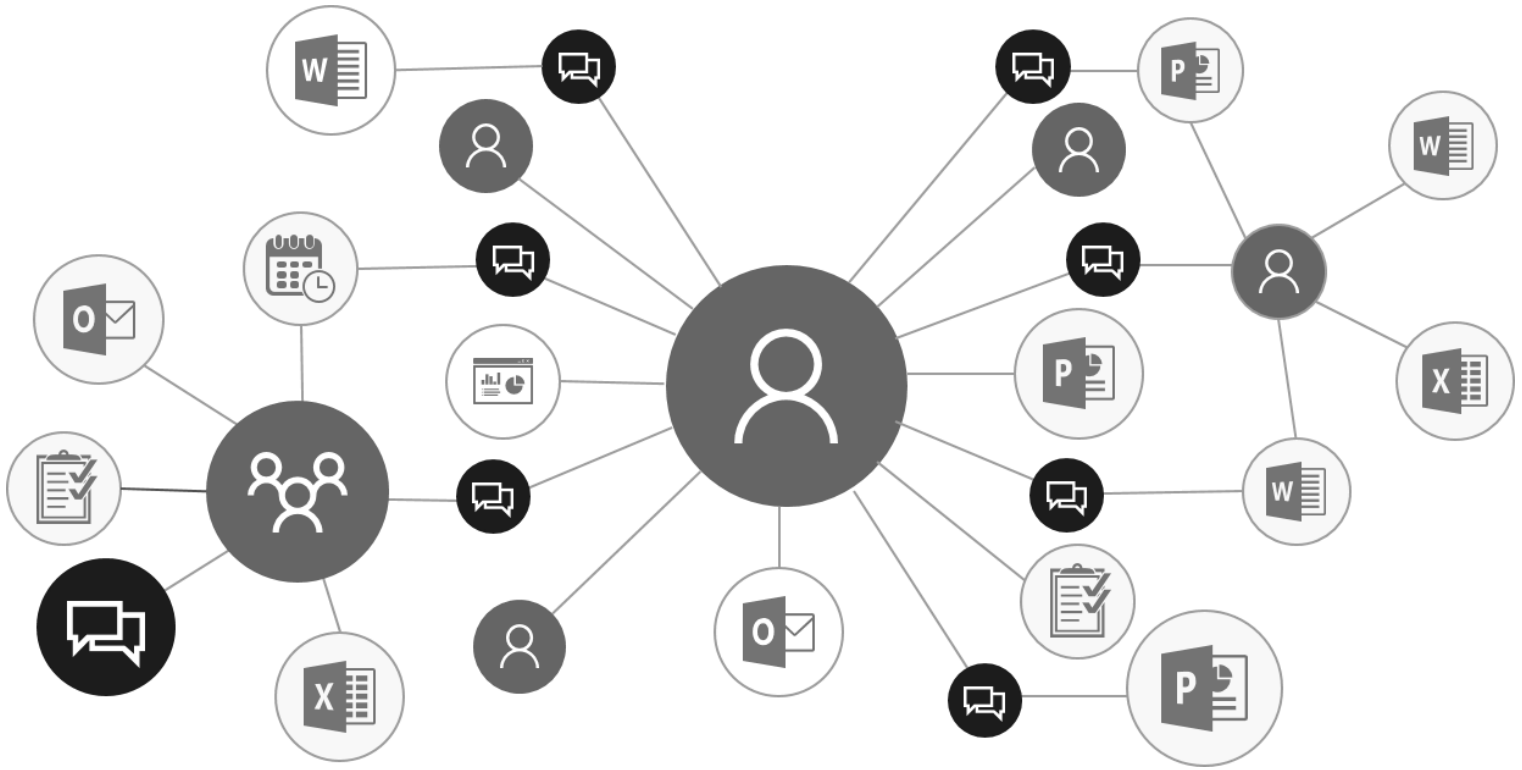
Calendar

Contacts

Tasks

Insights and relationships from Microsoft graph

Build intelligent apps by connecting to Office services



MICROSOFT GRAPH

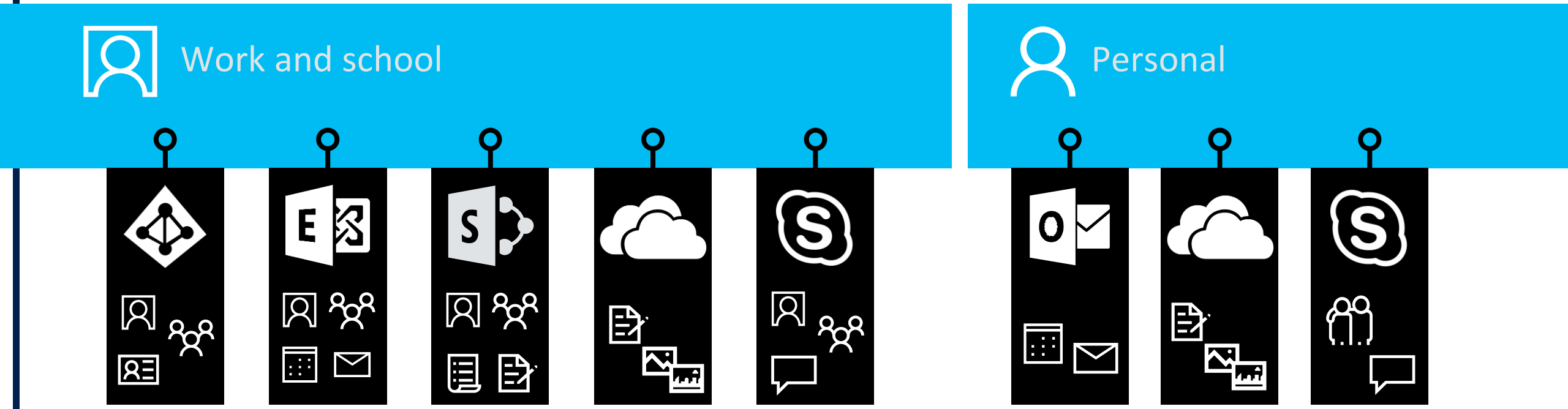
UNIFIED
Microsoft API and SDKs

SINGLE SIGN-ON
with Azure AD and MSA

ACCESS
to more data in real-time

INTELLIGENCE
with analytical signals

State of the world before Microsoft Graph:

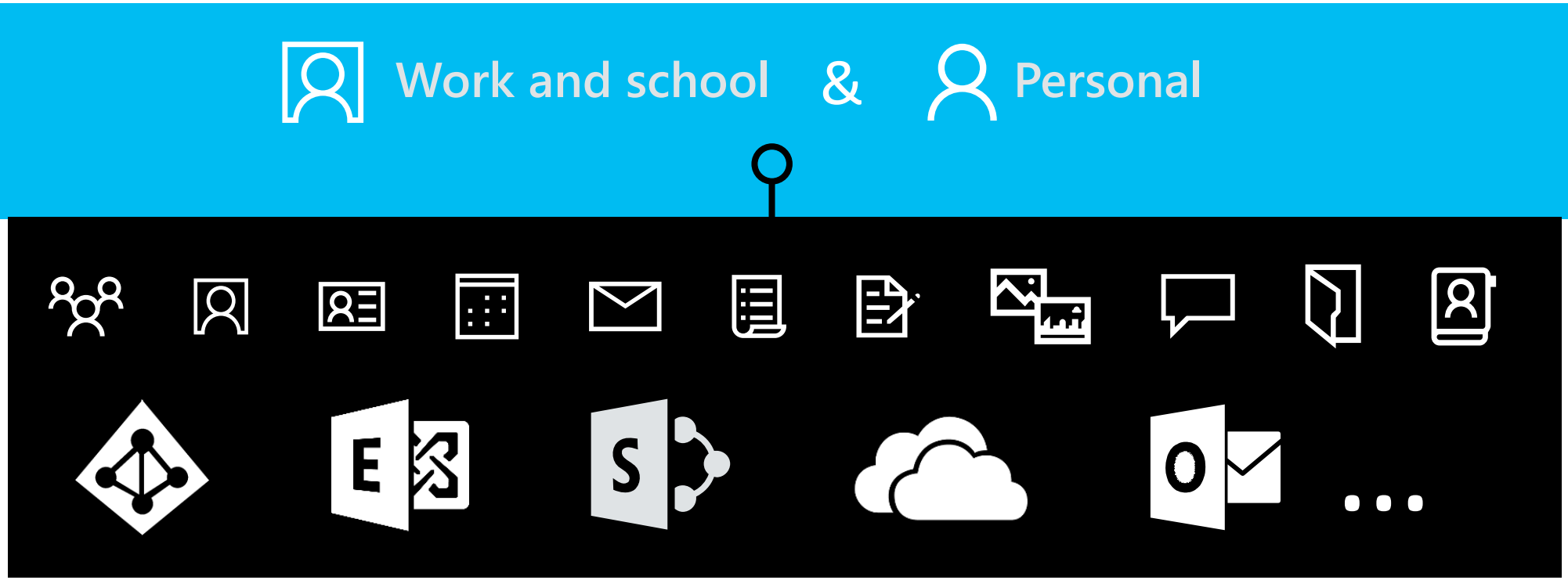


Many different APIs to access data

Two separate authorization stacks

World today with Microsoft Graph:

Microsoft Graph
(https://graph.microsoft.com/)



Data spread across multiple services

Azure Active Directory Graph API
https://graph.windows.net/contoso.com/users
https://graph.windows.net/contoso.com/groups

Outlook REST API
https://outlook.office.com/api/v2.0/me/Messages
https://outlook.office.com/api/v2.0/me/Events

OneDrive for Business API
https://contoso-my.sharepoint.com/personal
/yina_contoso_com/_api/v2.0/drive
https://contoso.sharepoint.com/sites
/designCouncil/_api/v2./drive

Windows Live profile API
https://apis.live.net/v5.0/me

SharePoint User Profile API
https://contoso.sharepoint.com/_api/SP.UserProfiles.PeopleManager/GetMyProperties

Exchange HD Picture API
https://graph.microsoft.com/v1.0/me/photo

Office Graph in SharePoint Online
https://contoso.sharepoint.com/_api/search/query?Querytext='*'&Properties='GraphQuery:actor(ME,action\:1020,or(action\:1020\,action\:1003,action\:1001,action\:1024,action\:1005,action\:1037,action\:1039,action\:1036)'&SelectProperties='Docid,Title

OneDrive API
https://api.onedrive.com/v1.0/drive

Data spread across multiple services today

One endpoint to access it: https://graph.microsoft.com/

OPERATION	SERVICE ENDPOINT
GET my profile	https://graph.microsoft.com/v1.0/me
GET my files	https://graph.microsoft.com/v1.0/me/drive/root/children
GET my photo	https://graph.microsoft.com/v1.0/me/photo/$value
GET my mail	https://graph.microsoft.com/v1.0/me/messages
GET my calendar	https://graph.microsoft.com/v1.0/me/calendar
GET my manager	https://graph.microsoft.com/v1.0/me/manager
GET last user to modify file foo.txt	https://graph.microsoft.com/v1.0/me/drive/root/children/foo.txt/lastModifiedByUser
GET users in my organization	https://graph.microsoft.com/v1.0/users
GET group conversations	https://graph.microsoft.com/v1.0/groups/<id>/conversations
GET people related to me	https://graph.microsoft.com/beta/me/people
GET my tasks	https://graph.microsoft.com/beta/me/tasks
GET my notes	https://graph.microsoft.com/beta/me/notes/notebooks
GET files trending around me	https://graph.microsoft.com/beta/me/trendingAround

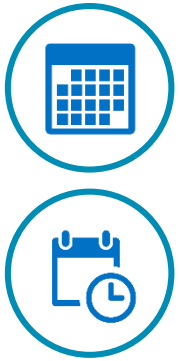
Breaking silos

USER

FILES

EMAIL AND CONVERSATIONS

EVENTS



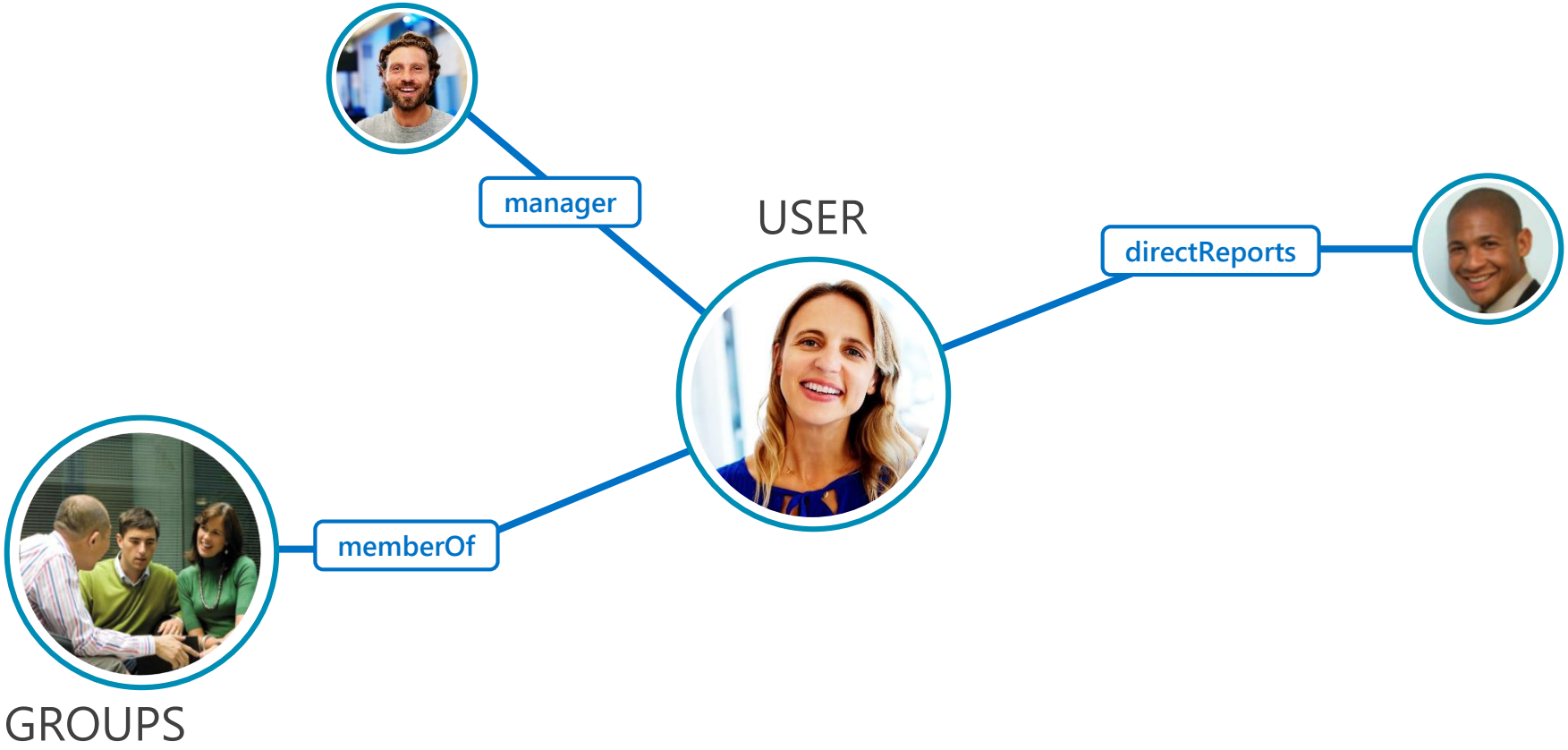
PEOPLE

GROUPS

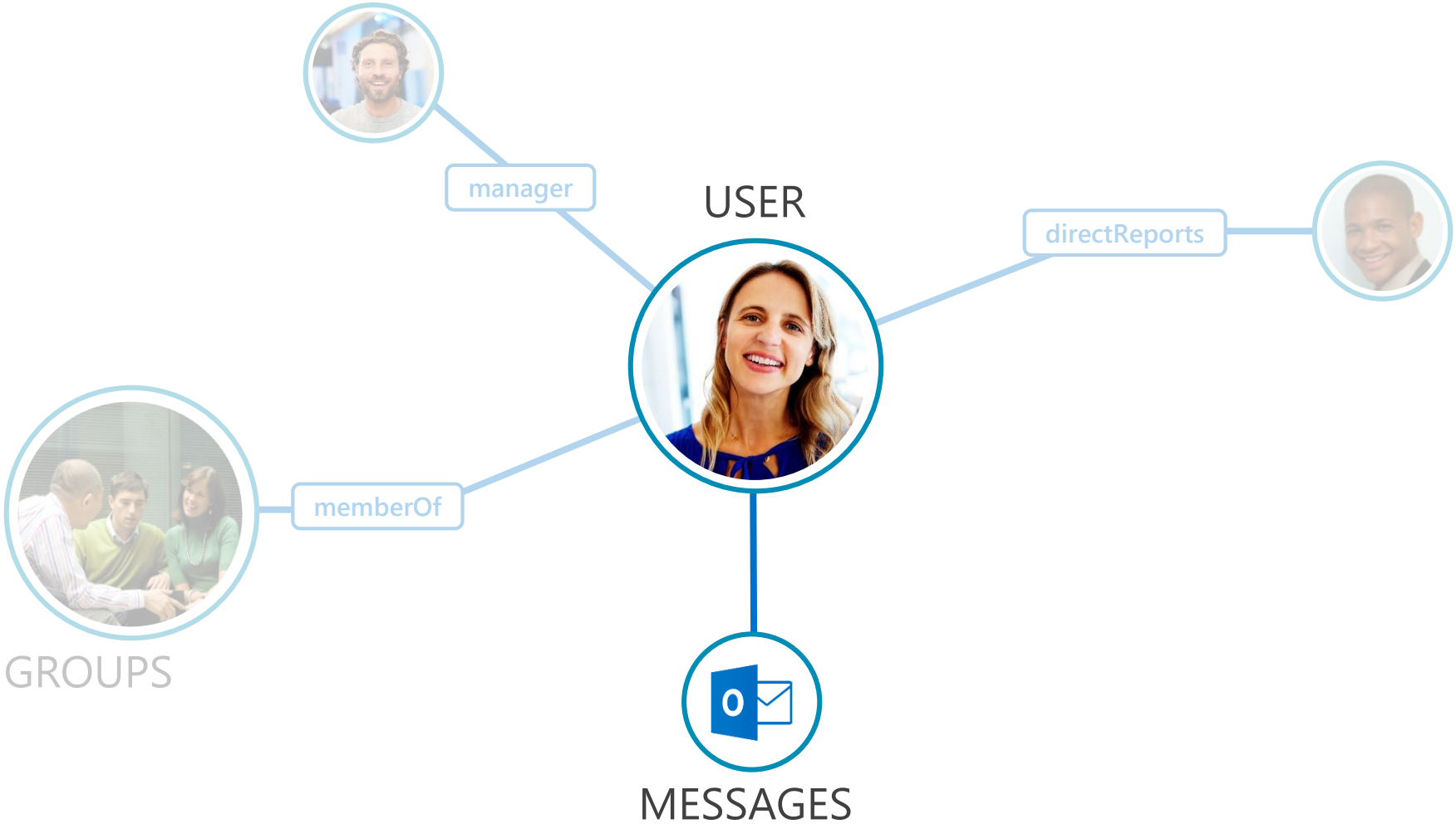
/me

USER

/users

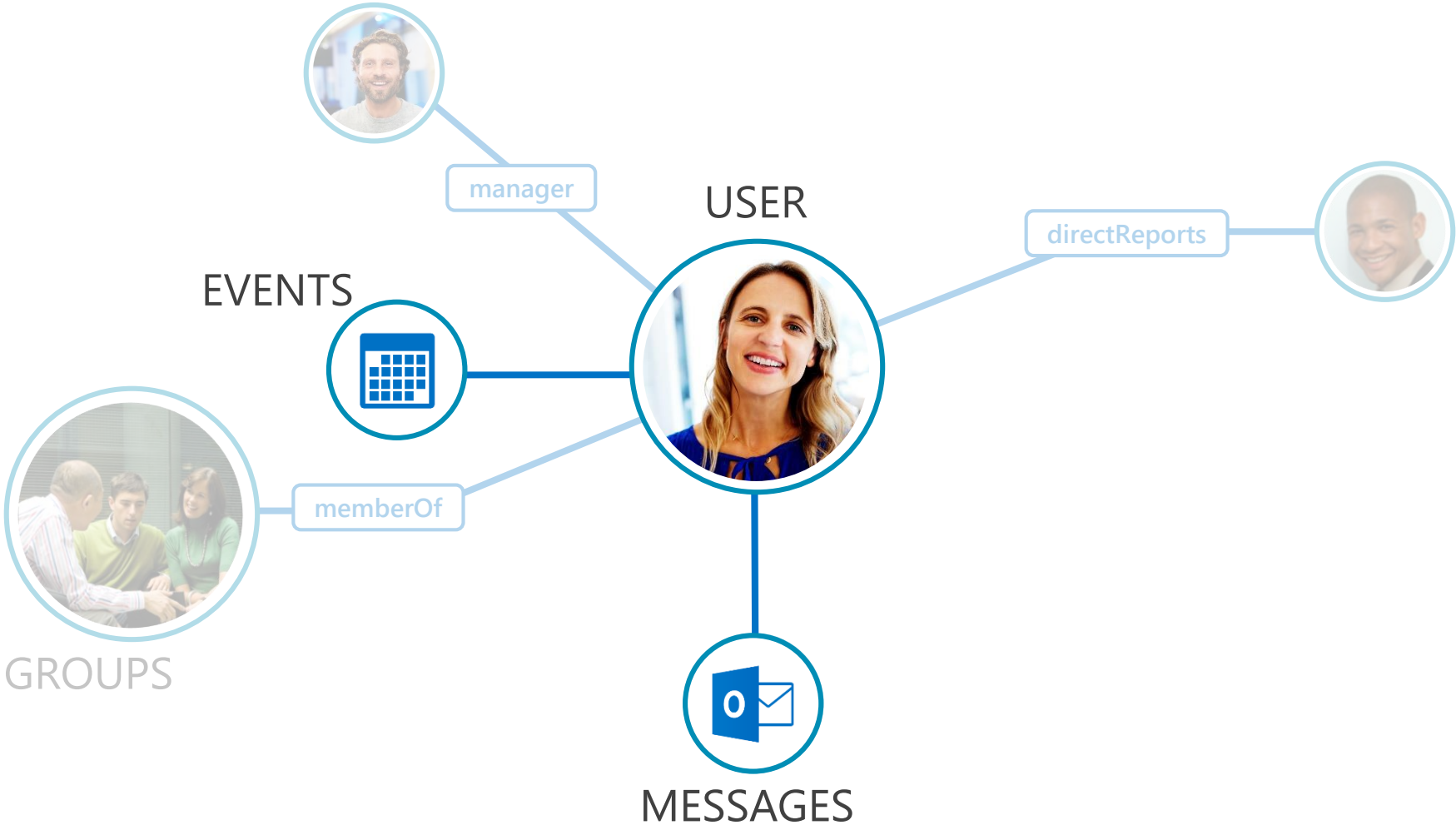


/messages

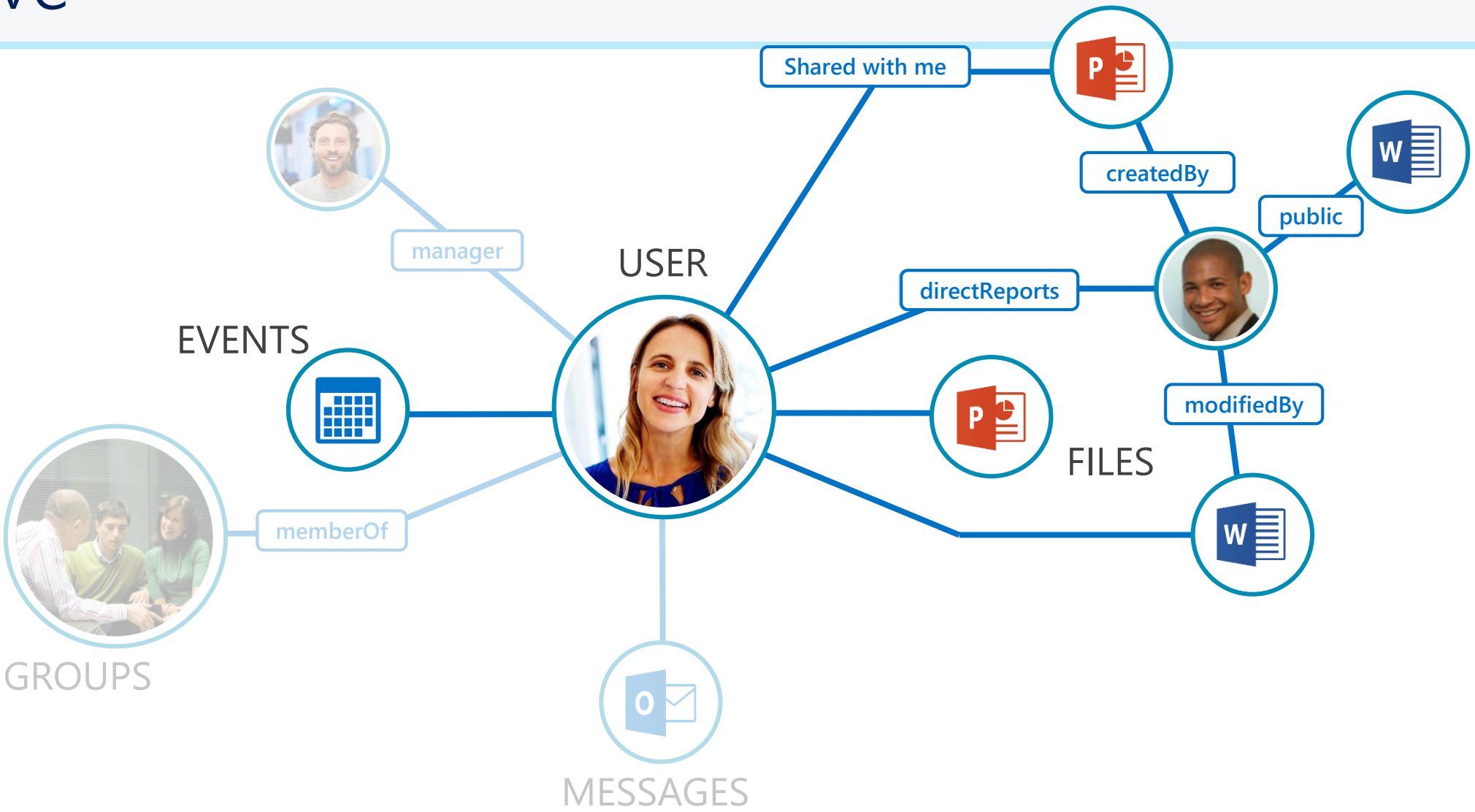


Microsoft

/events

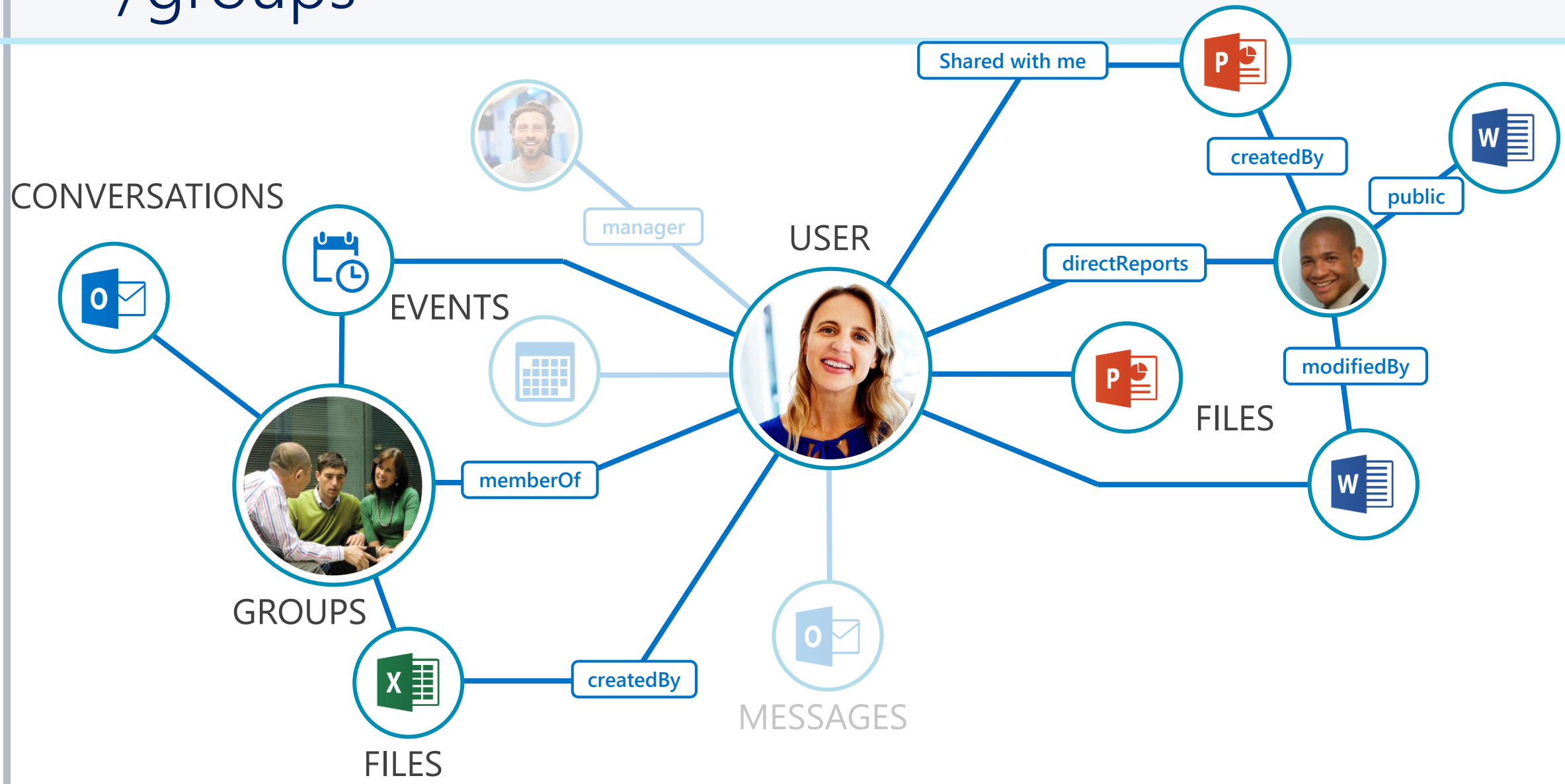

manager
USER
directReports
EVENTS
memberOf
GROUPS
MESSAGES

/drive



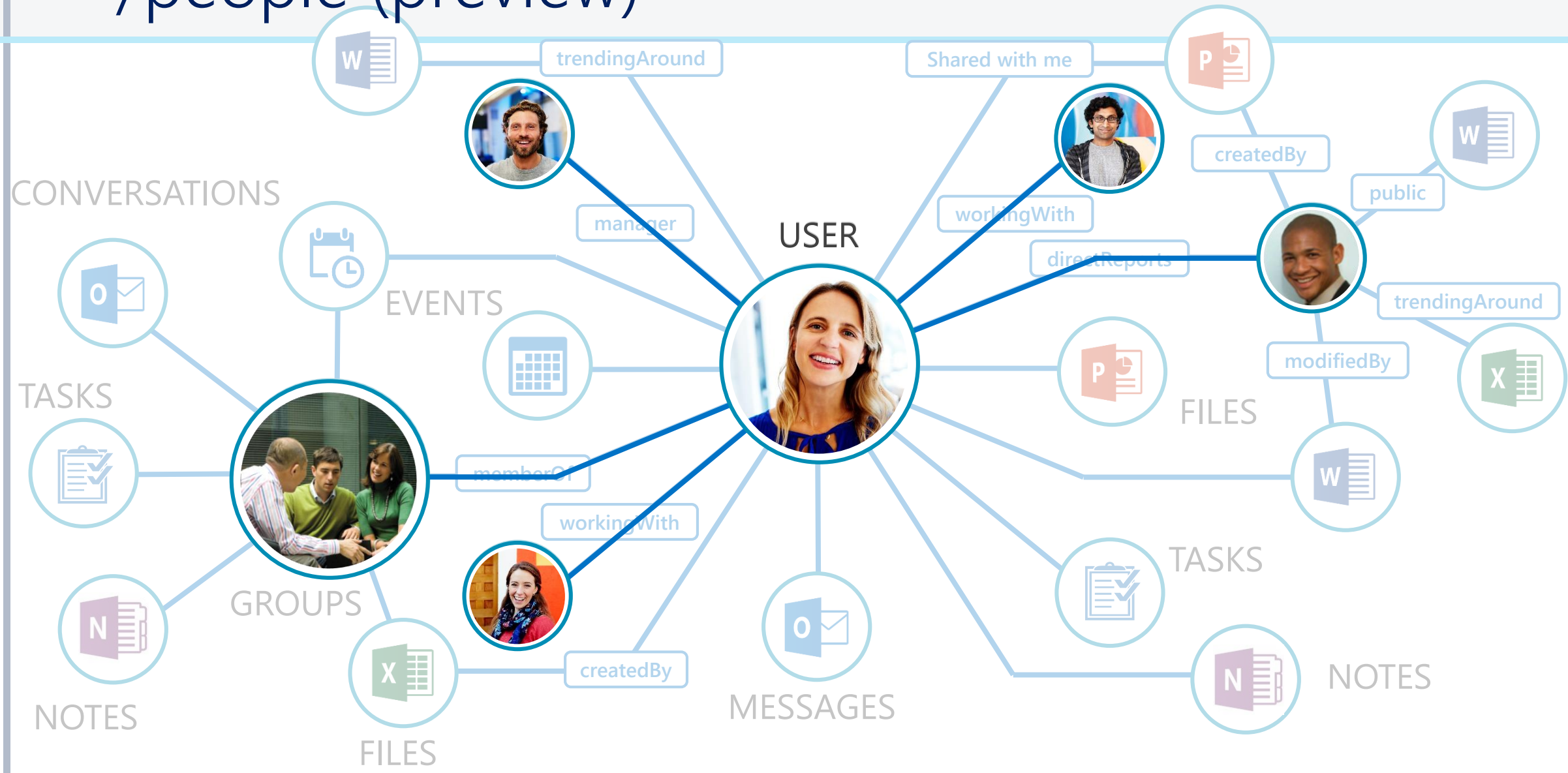
Microsoft

/groups



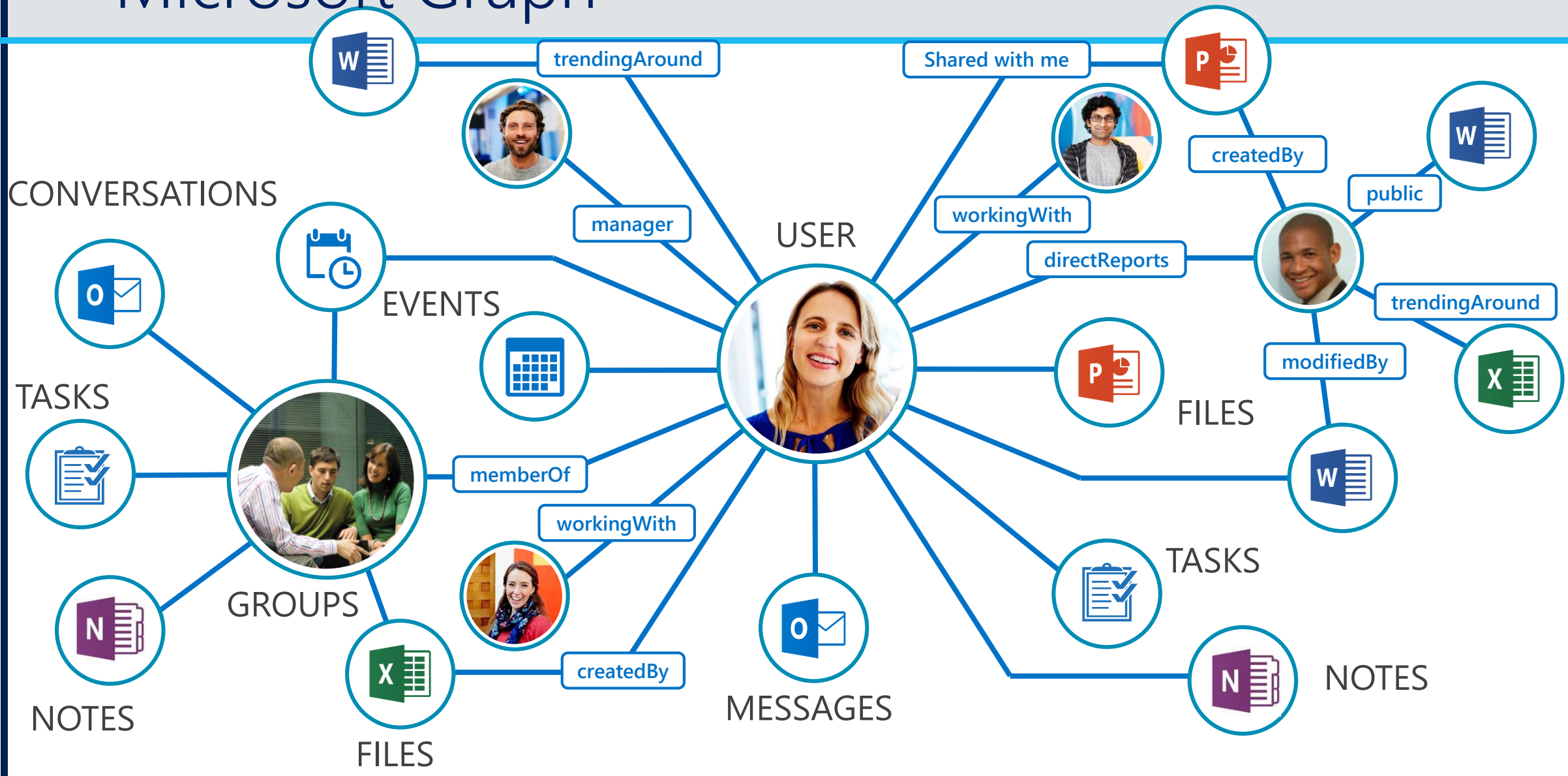
Microsoft

/people (preview)



Microsoft

Microsoft Graph



Demos

- Graph Explorer

(work/school and personal)

Microsoft

Microsoft Graph vs. direct endpoints

Direct endpoints still available and supported

Goal to have all direct endpoint functionality in Microsoft Graph

Functionality will likely show up first in direct endpoints

Direct endpoints will continue to require resource specific access tokens

Microsoft Graph is the API surface to access data in office and other Microsoft cloud services

We are starting the journey, more services are integrating

Microsoft Graph APIs

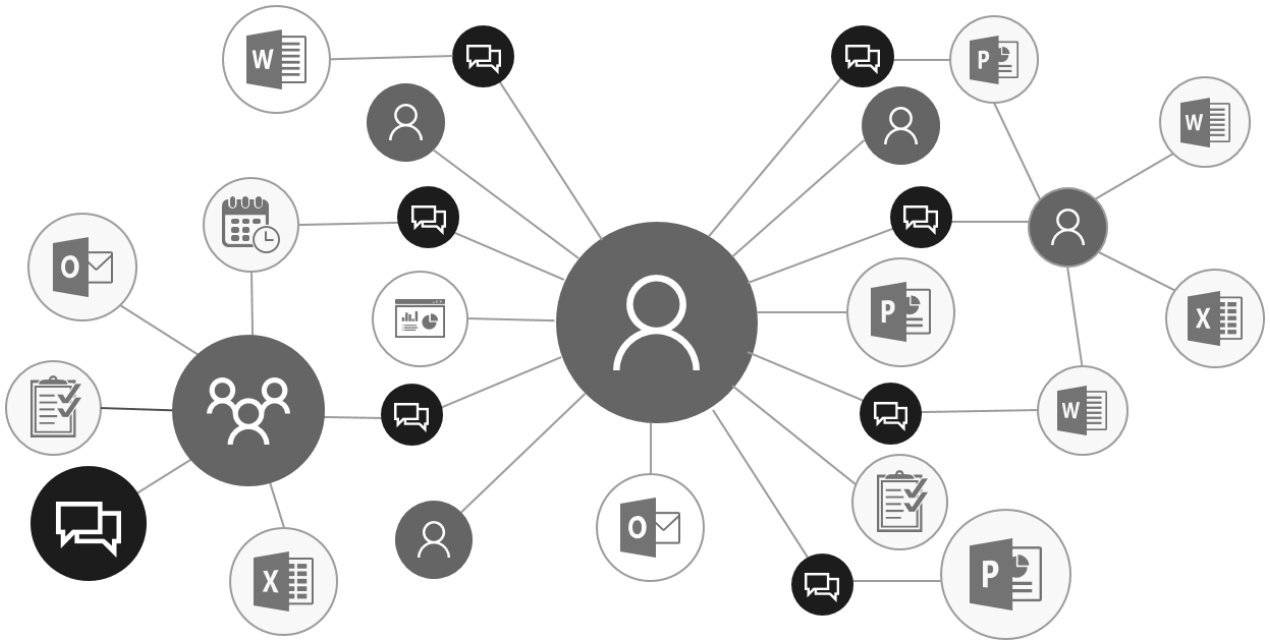
Access **data** and **intelligence** from the Microsoft cloud

Enabling a **consistent** development platform

For both commercial and consumer

HTTPS://GRAPH.MICROSOFT.COM

- Users
- Groups
- Mail
- Documents
- Notebooks

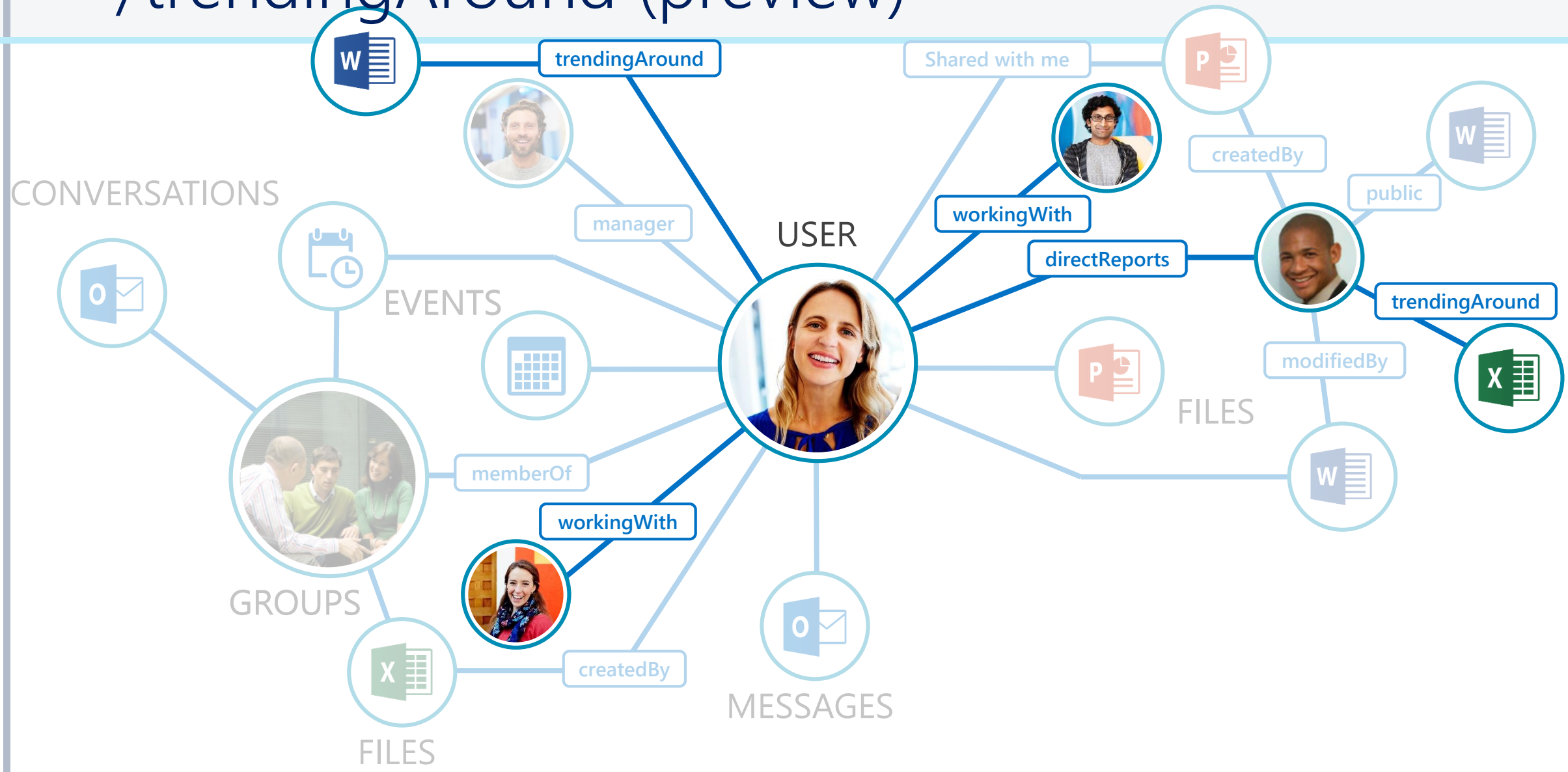


- Calendar
- Excel
- Office Graph
- People
- And more …

/workingWith and /people (preview)

Microsoft

/trendingAround (preview)



Microsoft

Demo

Delve

Microsoft

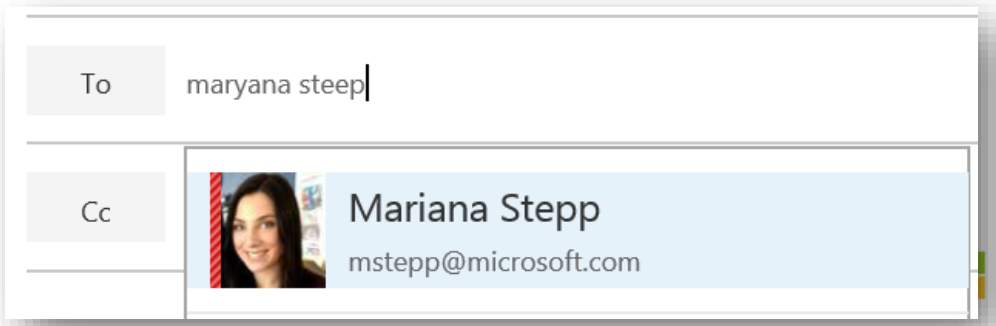
People API (preview)

- Provide a complete view of an individual
  - Returns unified people, with properties combined from multiple existing endpoints
  - Results are sourced from: Directory, Outlook contacts, Social contacts, Relevant people

Search and browse for the people who matter most.

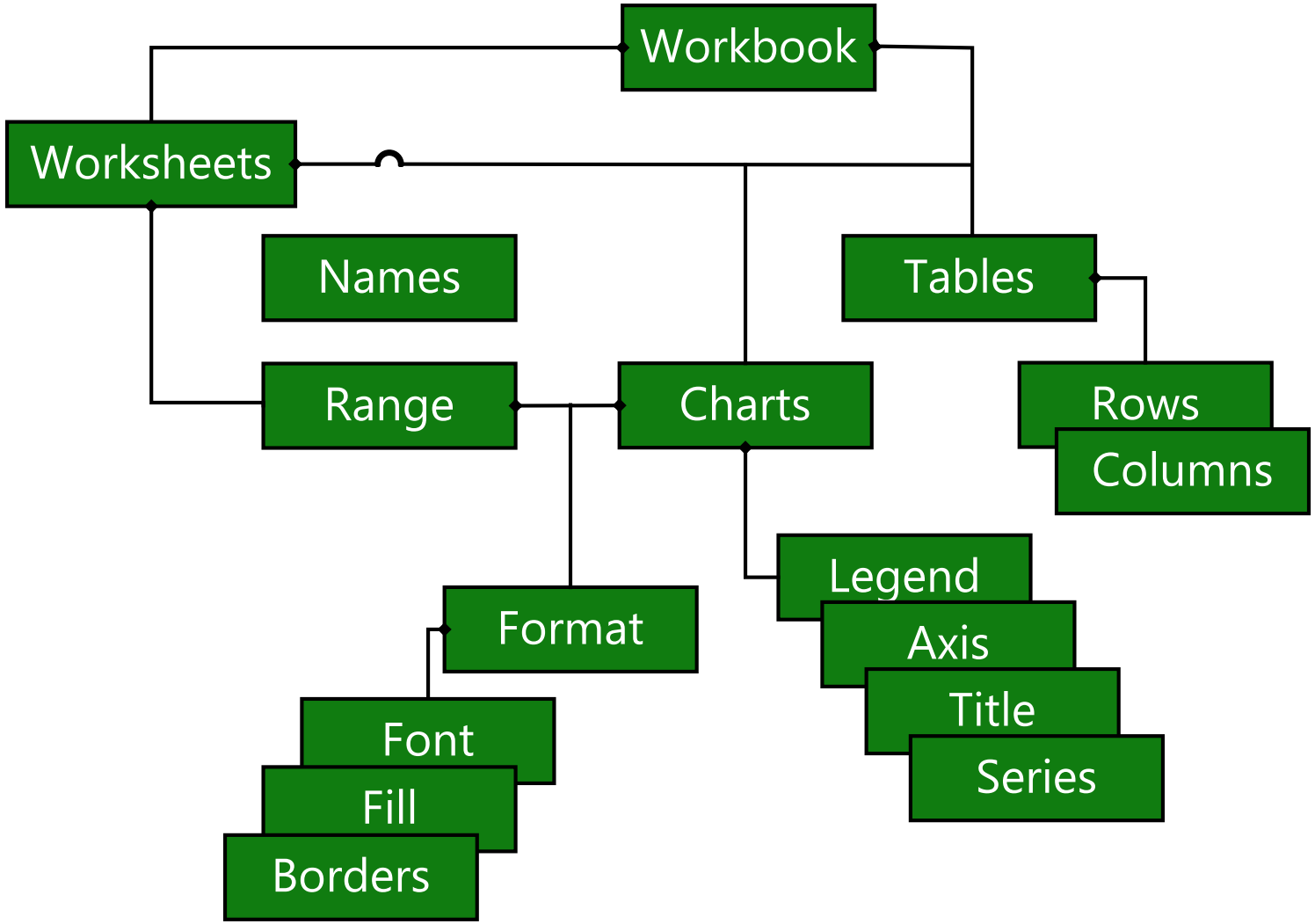
  - Dynamically ranks people based on their relevance to the logged in user.

- Search allows for additional context
  - Topics discussed in previous communications can augment a search query
  - Fuzzy matching for misspelled names



Microsoft

Excel REST API



CRUD and navigation of a workbook's core elements

Rich formatting and content/formula editing for cells, ranges and tables

Data visualization through native charts

Basic manipulation of external data bindings

Microsoft

Demo

People API

Excel API

Microsoft

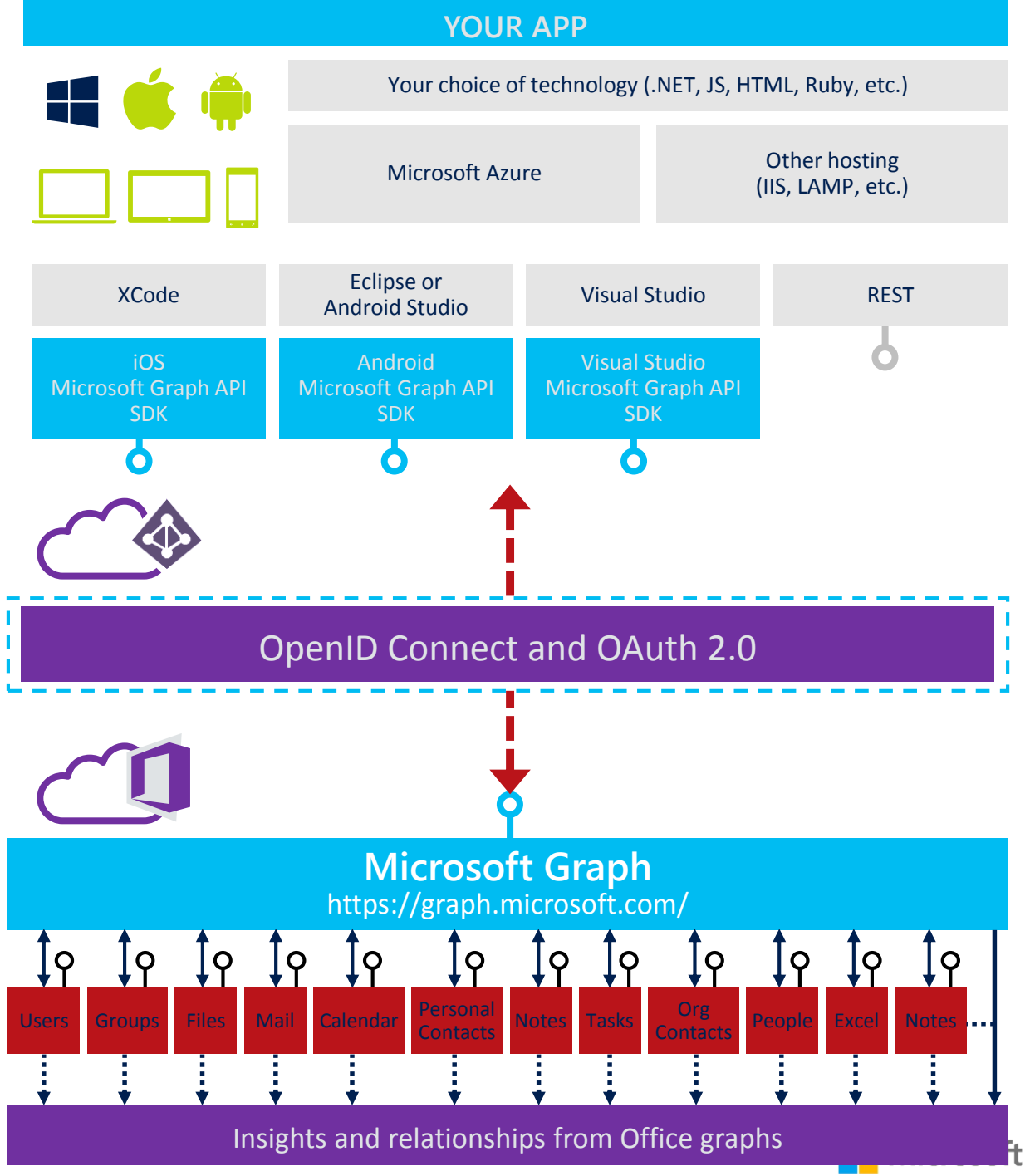
Building integration with Office 365

Solution

Development Environment

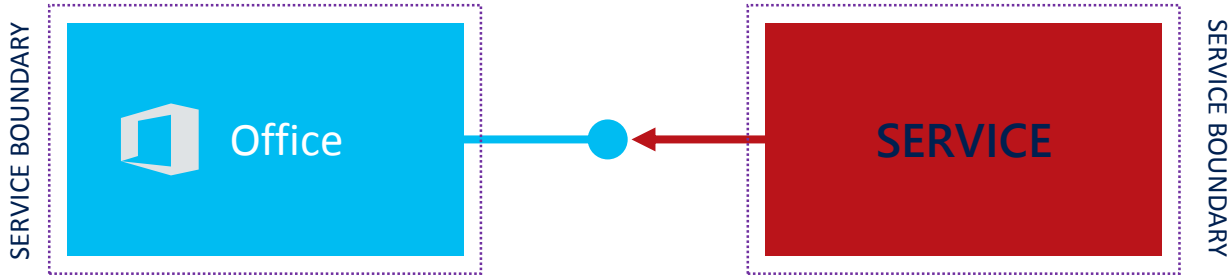
Authentication and Authorization

Data

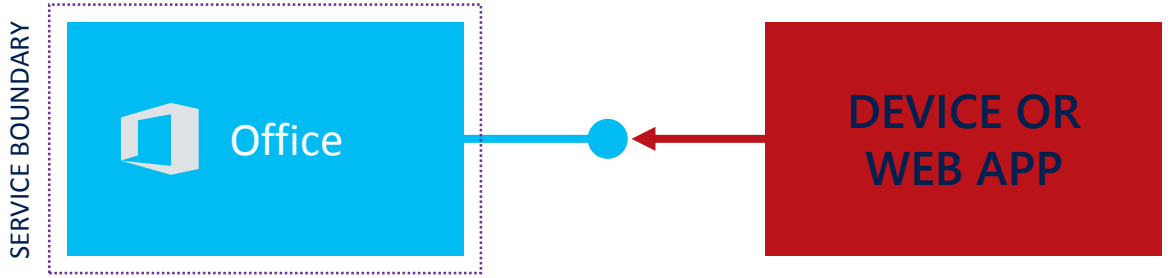


Office as a Service - Variants

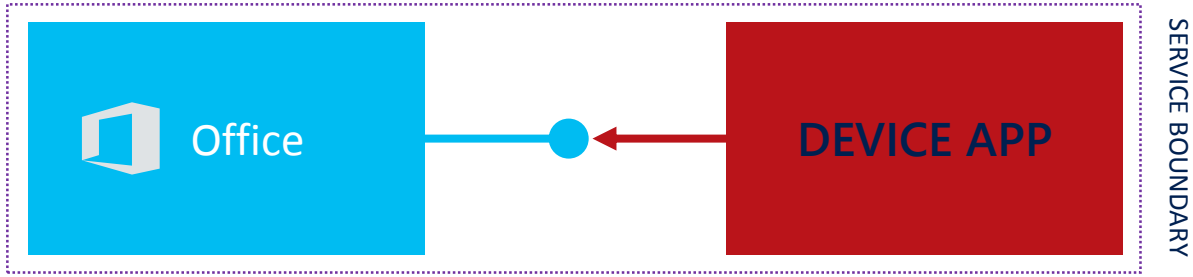
A. Service to Service



B. Client to Service



C. Client to Client



Client Controls

Microsoft

Demo

WeChat with Microsoft Graph

Microsoft

WeChat Service Account – 微软中国Office365

Benefits

Gateway to data in Office365

Web Standards, Open Platform

Easy traversal of objects and rich relationships

Secure data access

Resources

- Documentation, samples and more:
- https://graph.microsoft.com/
- http://www.github.com/officedev
- http://www.github.com/MicrosoftGraph
- Stack overflow:

  [MicrosoftGraph] and [Office365]

Microsoft