INFOSEC 2022

MISA Ontario

Building a Portal for Secure Data Collection and Reporting Across Municipalities

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Meighan Finlay, Executive Director, MBN Canada

Peter Carson

- President, Envision IT
- 12X Office Apps and Services MVP
- Regular industry speaker
- peter@envisionit.com
- blog.petercarson.ca
- www.envisionit.com
- Twitter @carsonpeter
- President Toronto SharePoint User Group

Meighan Finlay

- Executive Director, MBN Canada
- 20+ years in continuous quality improvement in public sector services including municipal service delivery

Agenda

- Introductions
- Overview of MBN Canada
- The Challenge
- Results
- Leveraging Microsoft 365 and Azure AD
- Secure External Sharing
- Open-Source Power BI Dashboard

Overview of MBN Canada

MBNCanada is a leader in performance measurement that supports excellence in municipal service delivery.

Mission: To enhance municipal service delivery through collaboration, networking and the implementation of performance measurement, benchmarking and other municipal continuous improvement programs and initiatives.

http://mbncanada.ca

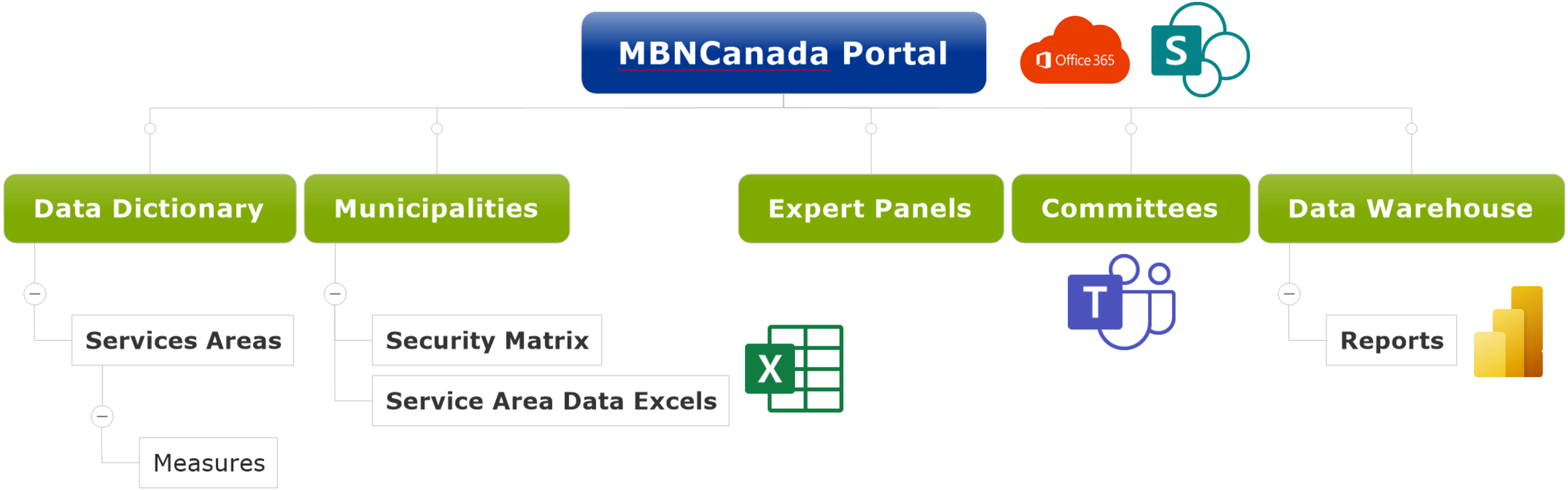
The Challenge

- Aging application and on-premise infrastructure
- Manual and time-consuming processes, particularly the report generation
- Security management
- Access to the shared data warehouse

Project Objectives

- Single portal and sign-on for communications, panel planning, collection of measures data, and reporting / visualizations
- Simple and easy for Program Office and municipal users
- Delegation of user setup and role assignment
- Eliminate manual work

Portal Structure



MBNCanada Portal

Data Dictionary

- Services Areas
  - Measures

Municipalities

- Security Matrix
- Service Area Data Excels

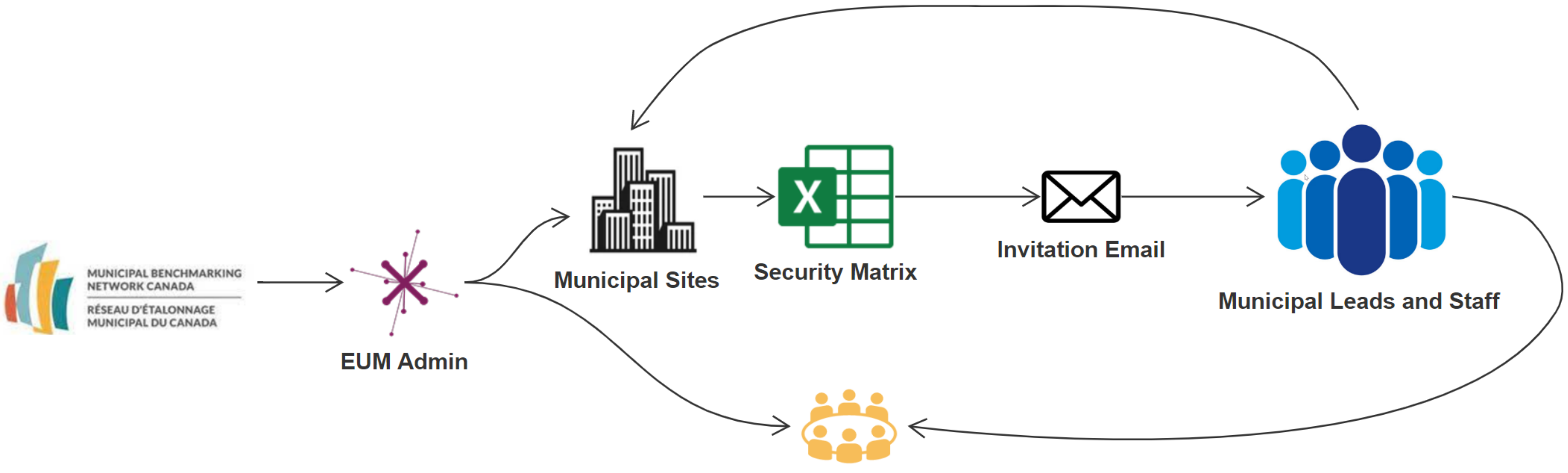
Expert Panels

Committees

Data Warehouse

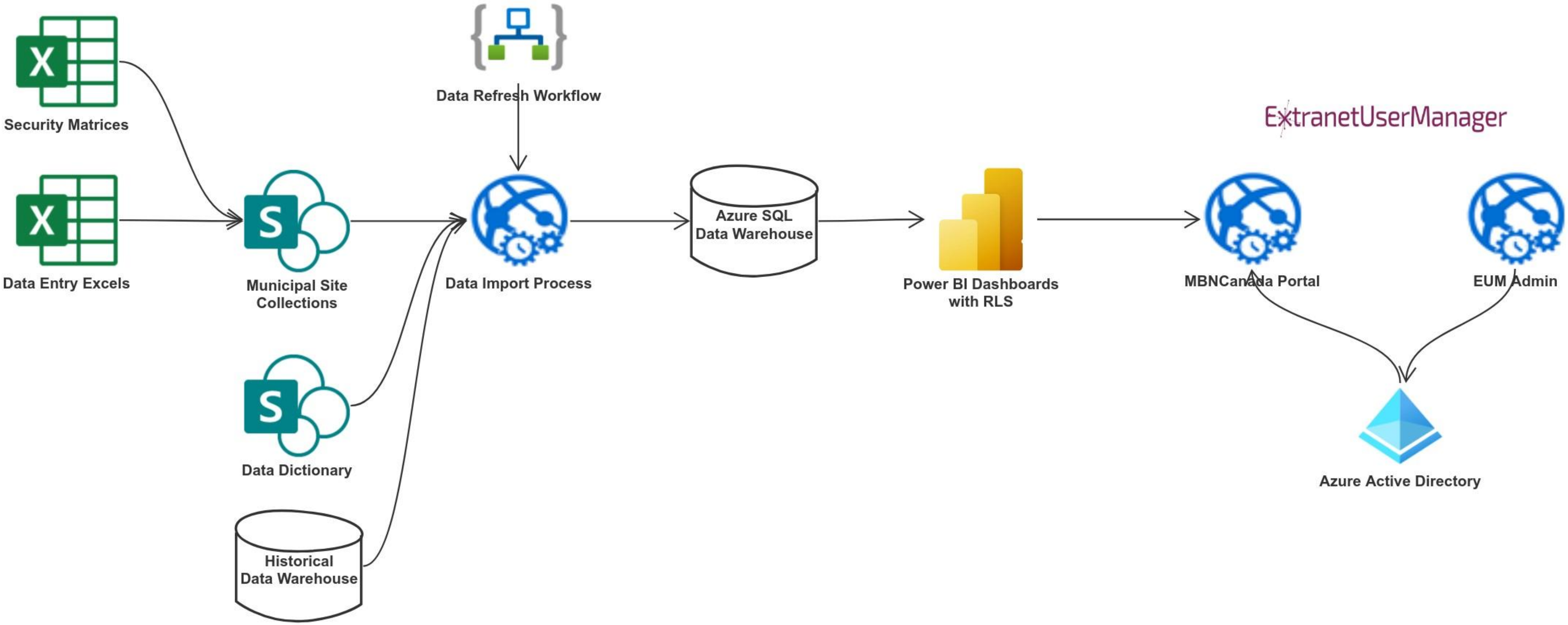
- Reports

Onboarding


MUNICIPAL BENCHMARKING NETWORK CANADA
RÉSEAU D'ÉTALONNAGE MUNICIPAL DU CANADA
EUM Admin
Municipal Sites
Security Matrix
Invitation Email
Municipal Leads and Staff

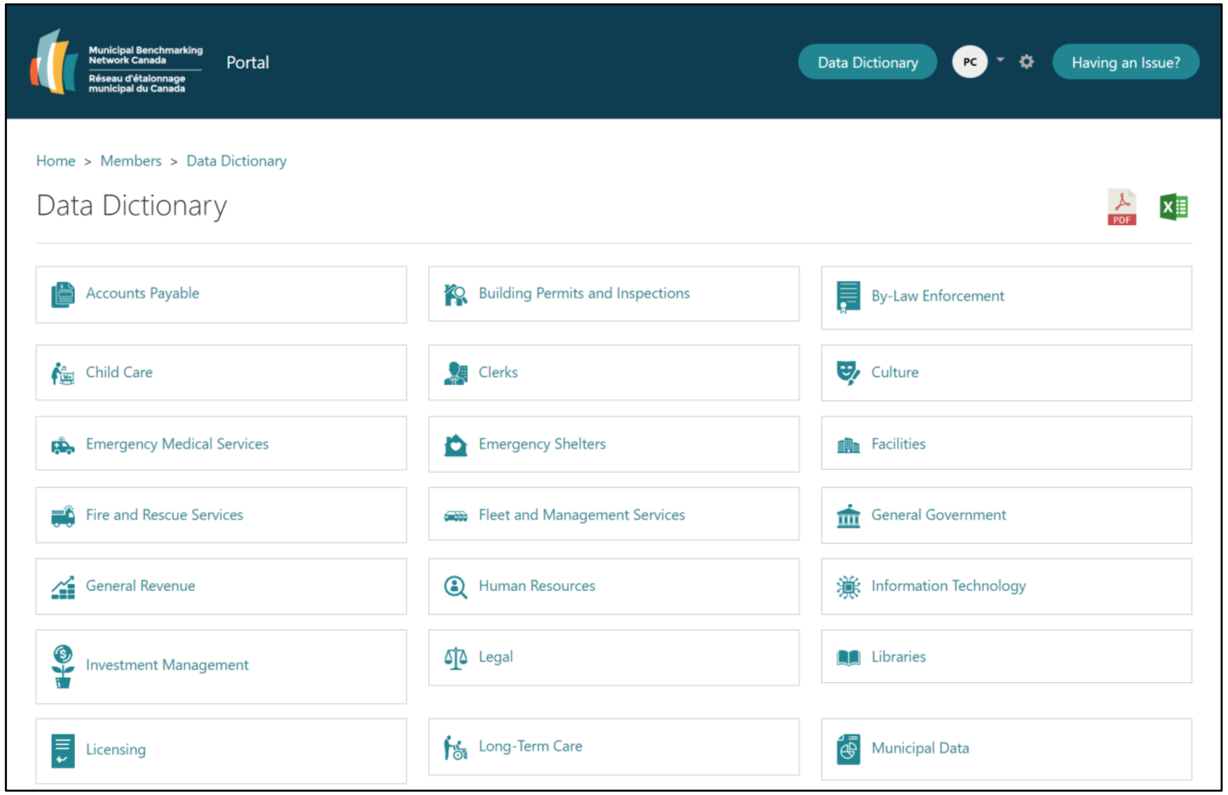
Expert Panels and Committees

MBNCanada Solution Architecture



Data Dictionary

- Link available on portal and within input Excels
- All Services Areas can drill down to specific Measures
- Measure metadata
- Export to PDF and Excel to sort, filter



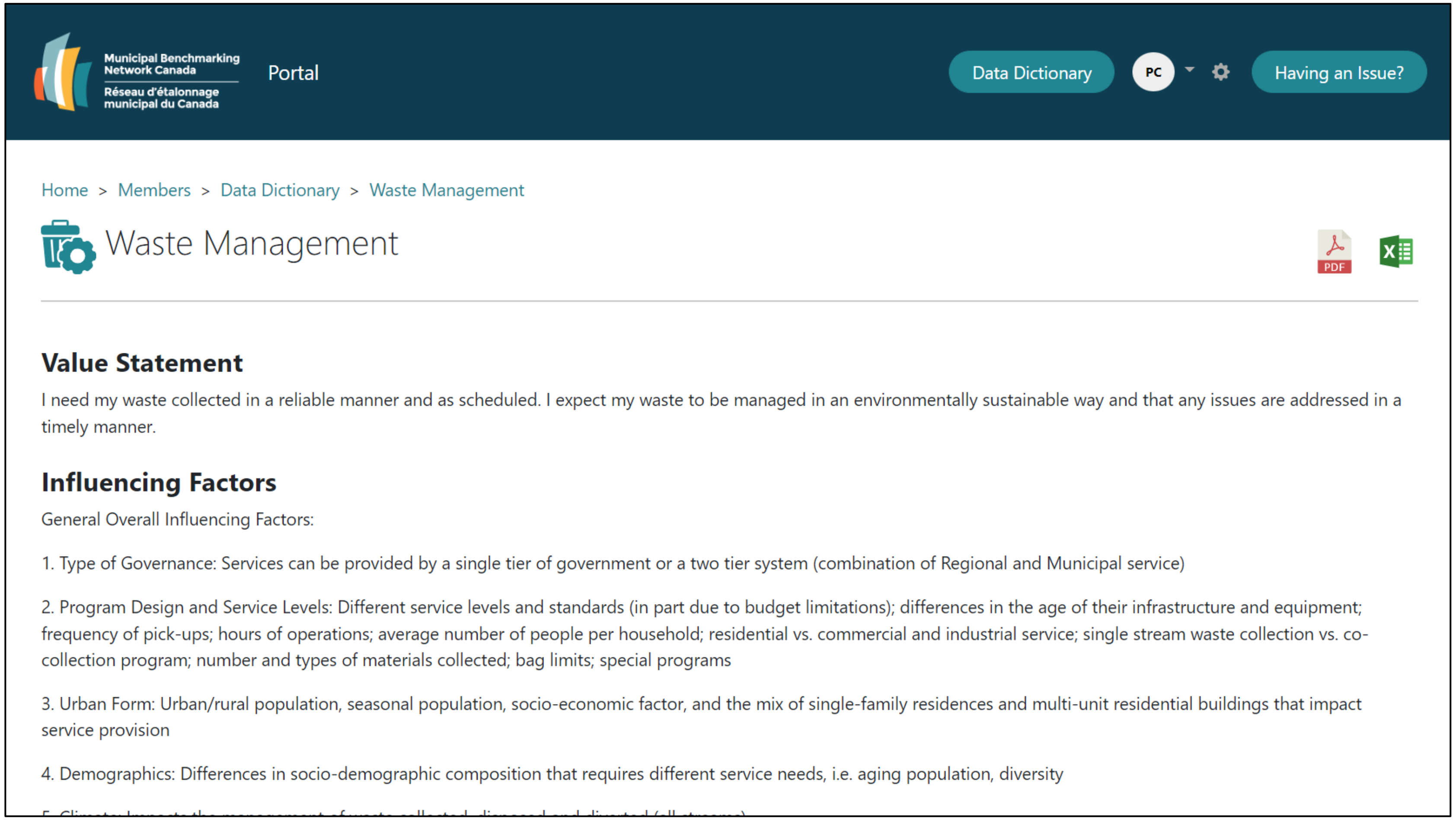
Municipal Benchmarking Network Canada
Réseau d'étalonnage municipal du Canada
Portal
Data Dictionary
PC
Having an Issue?
PDF

Home > Members > Data Dictionary

Data Dictionary

- Accounts Payable
- Building Permits and Inspections
- By-Law Enforcement
- Child Care
- Clerks
- Culture
- Emergency Medical Services
- Emergency Shelters
- Facilities
- Fire and Rescue Services
- Fleet and Management Services
- General Government
- General Revenue
- Human Resources
- Information Technology
- Investment Management
- Legal
- Libraries
- Licensing
- Long-Term Care
- Municipal Data

Data Dictionary – Service Area


Municipal Benchmarking Network Canada
Réseau d'étalonnage municipal du Canada
Portal
Data Dictionary
PC
Having an Issue?
Home > Members > Data Dictionary > Waste Management
PDF

Waste Management

Value Statement

I need my waste collected in a reliable manner and as scheduled. I expect my waste to be managed in an environmentally sustainable way and that any issues are addressed in a timely manner.

Influencing Factors

General Overall Influencing Factors:

1. Type of Governance: Services can be provided by a single tier of government or a two tier system (combination of Regional and Municipal service)

2. Program Design and Service Levels: Different service levels and standards (in part due to budget limitations); differences in the age of their infrastructure and equipment; frequency of pick-ups; hours of operations; average number of people per household; residential vs. commercial and industrial service; single stream waste collection vs. co-collection program; number and types of materials collected; bag limits; special programs

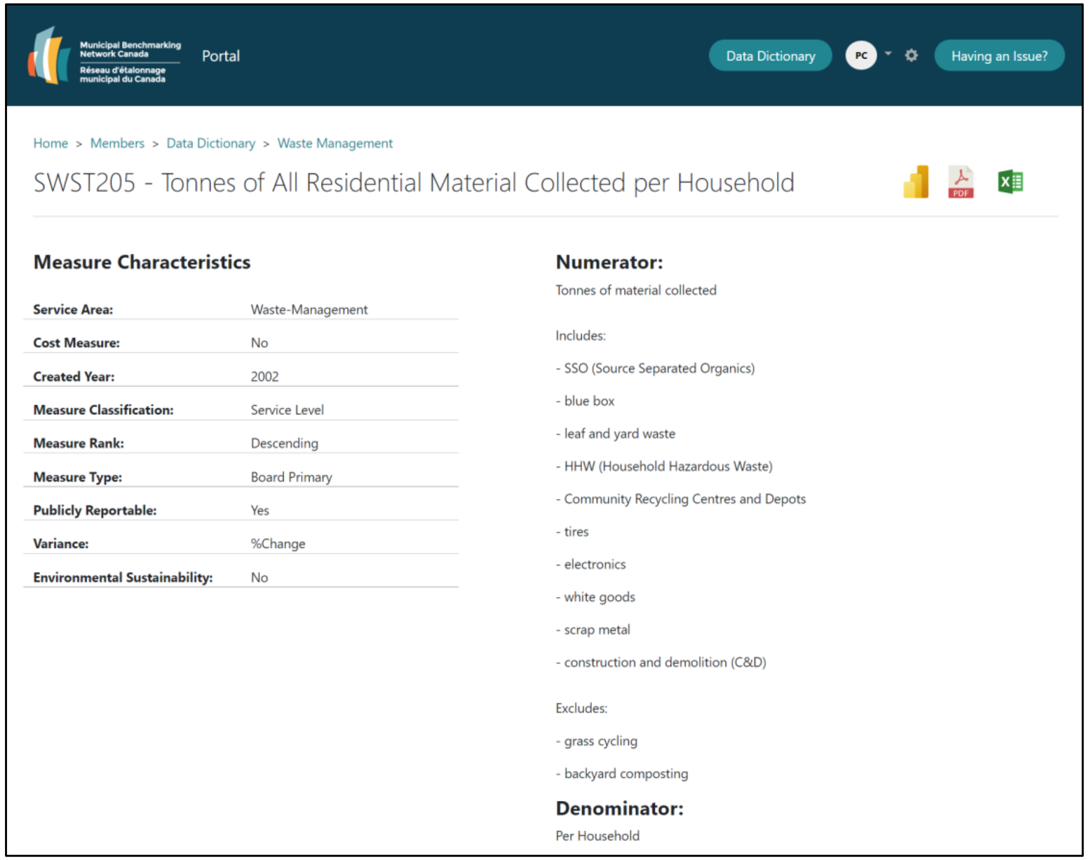
3. Urban Form: Urban/rural population, seasonal population, socio-economic factor, and the mix of single-family residences and multi-unit residential buildings that impact service provision

4. Demographics: Differences in socio-demographic composition that requires different service needs, i.e. aging population, diversity

5. Climate: Impacts the management of waste collected, disposed and diverted (all streams)

Data Dictionary - Measure

- Individual Measure pages display Measure metadata
- Dynamic Links to Power BI report for each Measure



Municipal Benchmarking Network Canada
Réseau d'étalonnage municipal du Canada
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Having an Issue?

Home > Members > Data Dictionary > Waste Management

SWST205 - Tonnes of All Residential Material Collected per Household

Measure Characteristics

Service Area:	Waste-Management
Cost Measure:	No
Created Year:	2002
Measure Classification:	Service Level
Measure Rank:	Descending
Measure Type:	Board Primary
Publicly Reportable:	Yes
Variance:	%Change
Environmental Sustainability:	No

Numerator:

Tonnes of material collected

Includes:

- SSO (Source Separated Organics)

- blue box

- leaf and yard waste

- HHW (Household Hazardous Waste)

- Community Recycling Centres and Depots

- tires

- electronics

- white goods

- scrap metal

- construction and demolition (C&D)

Excludes:

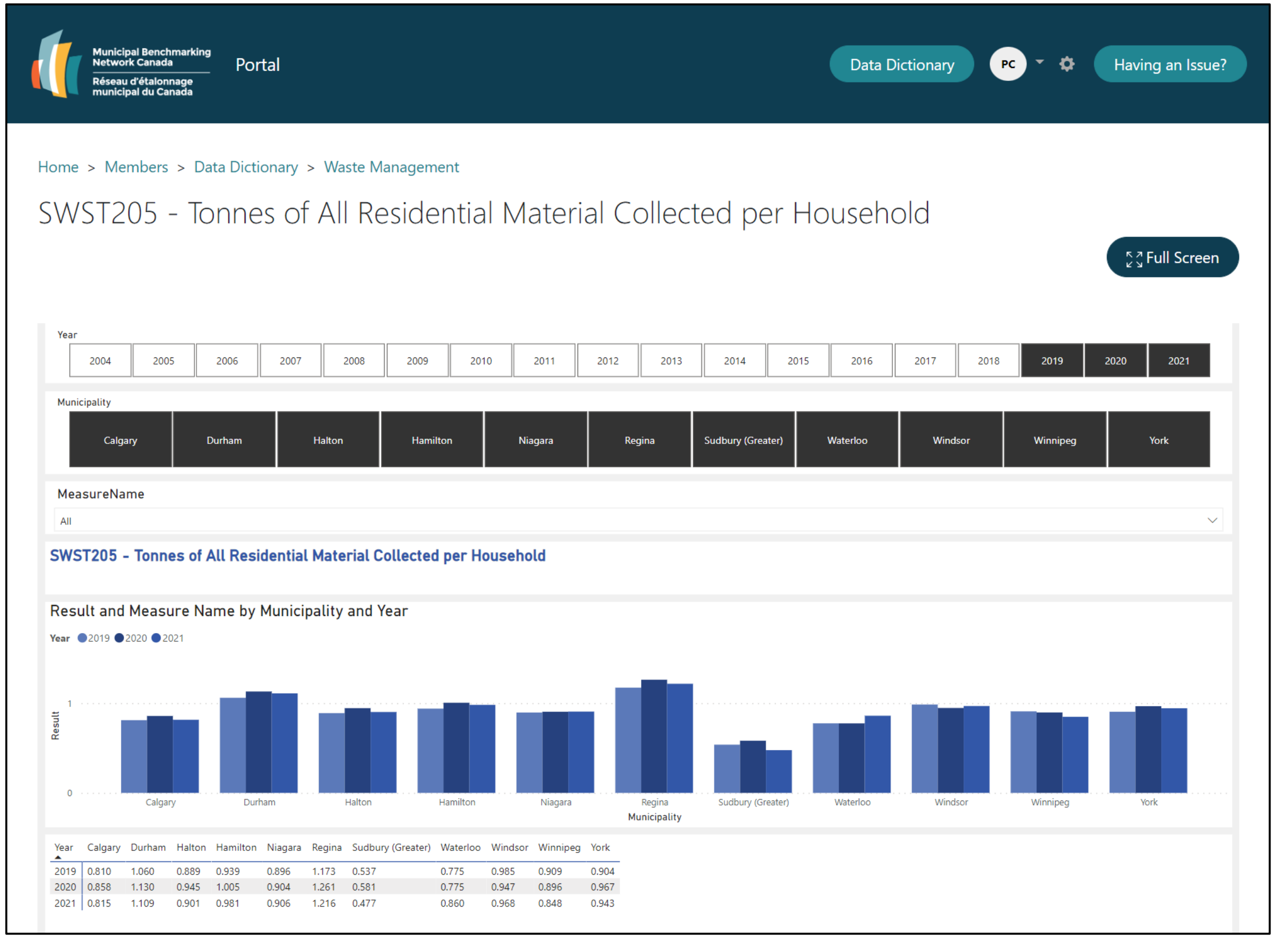
- grass cycling

- backyard composting

Denominator:

Per Household

Measure Analysis



SWST205 - Tonnes of All Residential Material Collected per Household

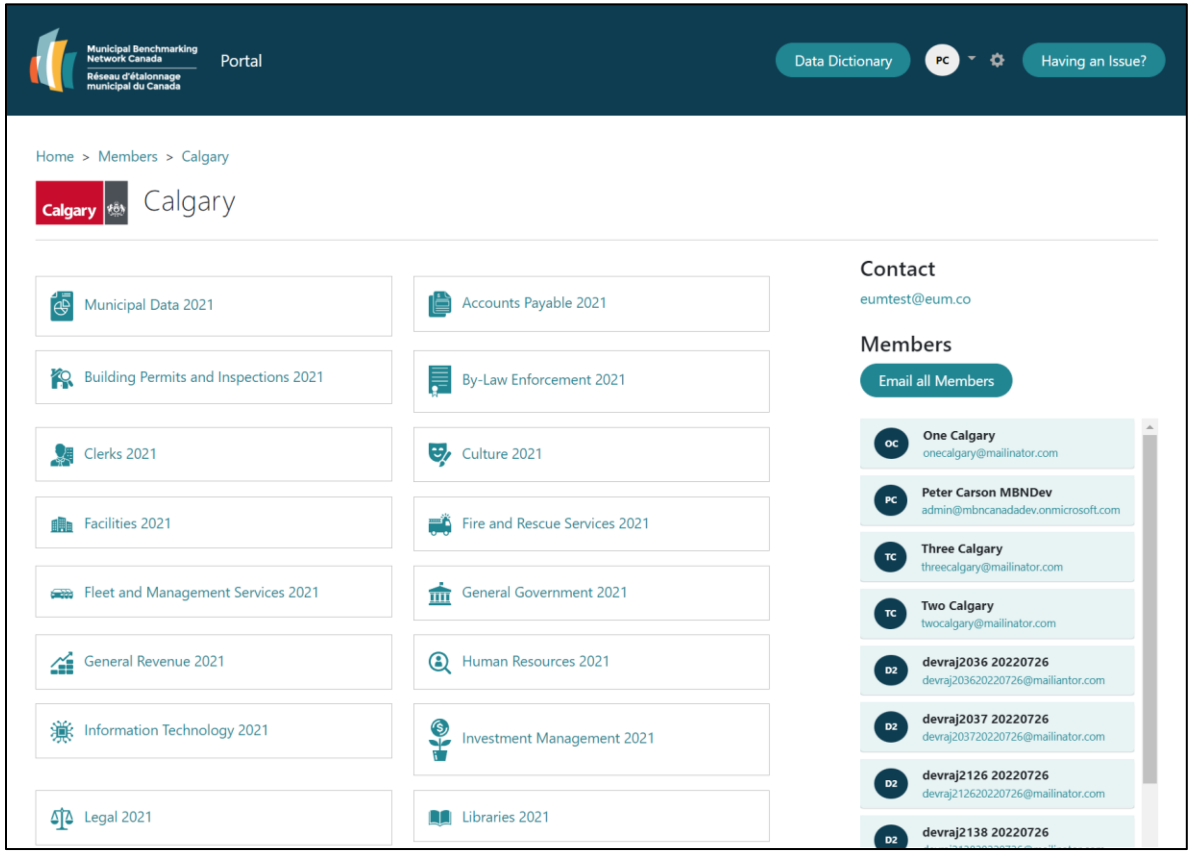
SWST205 - Tonnes of All Residential Material Collected per Household

Result and Measure Name by Municipality and Year

Year	Calgary	Durham	Halton	Hamilton	Niagara	Regina	Sudbury (Greater)	Waterloo	Windsor	Winnipeg	York
2019	0.810	1.060	0.889	0.939	0.896	1.173	0.537	0.775	0.985	0.909	0.904
2020	0.858	1.130	0.945	1.005	0.904	1.261	0.581	0.775	0.947	0.896	0.967
2021	0.815	1.109	0.901	0.981	0.906	1.216	0.477	0.860	0.968	0.848	0.943

Municipal Landing Pages

- Municipal staff only see Service Area Excels they have access to
- Member Contact Info
- Municipal Leads manage the Security Matrix here for their municipality



Municipal Benchmarking Network Canada
Réseau d'étalonnage municipal du Canada

Portal

Home > Members > Calgary

Calgary

- Municipal Data 2021
- Accounts Payable 2021
- Building Permits and Inspections 2021
- By-Law Enforcement 2021
- Clerks 2021
- Culture 2021
- Facilities 2021
- Fire and Rescue Services 2021
- Fleet and Management Services 2021
- General Government 2021
- General Revenue 2021
- Human Resources 2021
- Information Technology 2021
- Investment Management 2021
- Legal 2021
- Libraries 2021

Contact

eumtest@eum.co

Members

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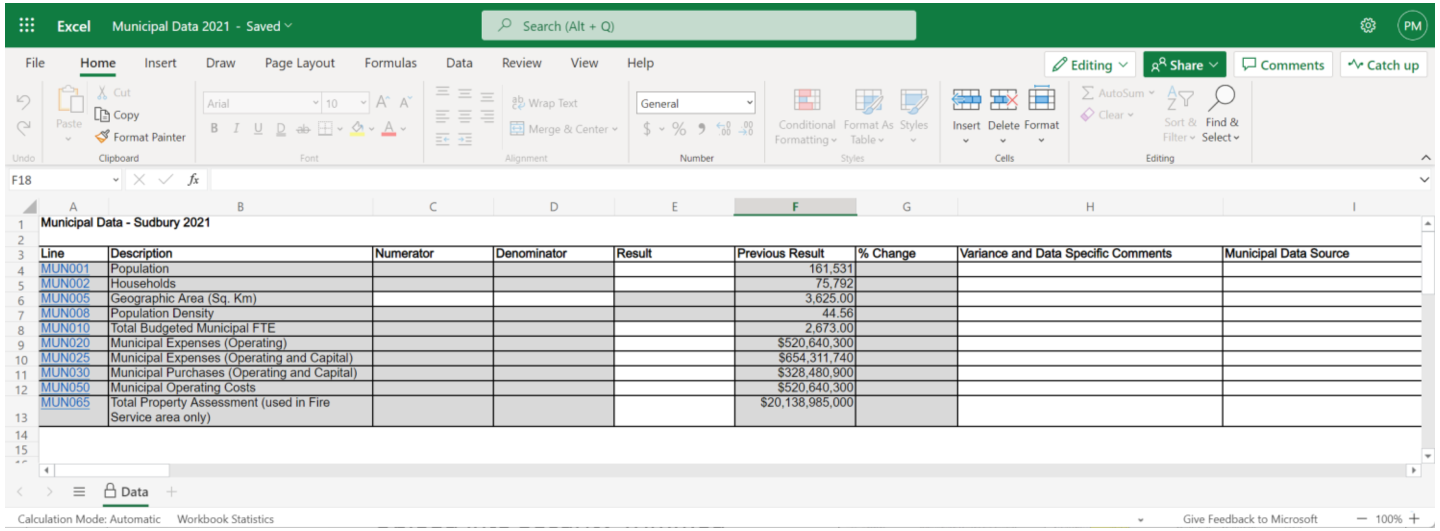
TC	Three Calgary threecalgary@mailinator.com
TC	Two Calgary twocalgary@mailinator.com
D2	devraj2036 20220726 devraj203620220726@mailiantor.com
D2	devraj2037 20220726 devraj203720220726@mailinator.com
D2	devraj2126 20220726 devraj212620220726@mailinator.com
D2	devraj2138 20220726

Data Input Overview

- Excel Template with all measures and formulas as approved by MBNCanada each year
- Year Rollover Process Automates Creation of Municipal Excels
    - Upload into Security Trimmed Workspaces
- Specific Cells can be locked on Input Excels
- Audit Trail and Previous Year Lockdown Features

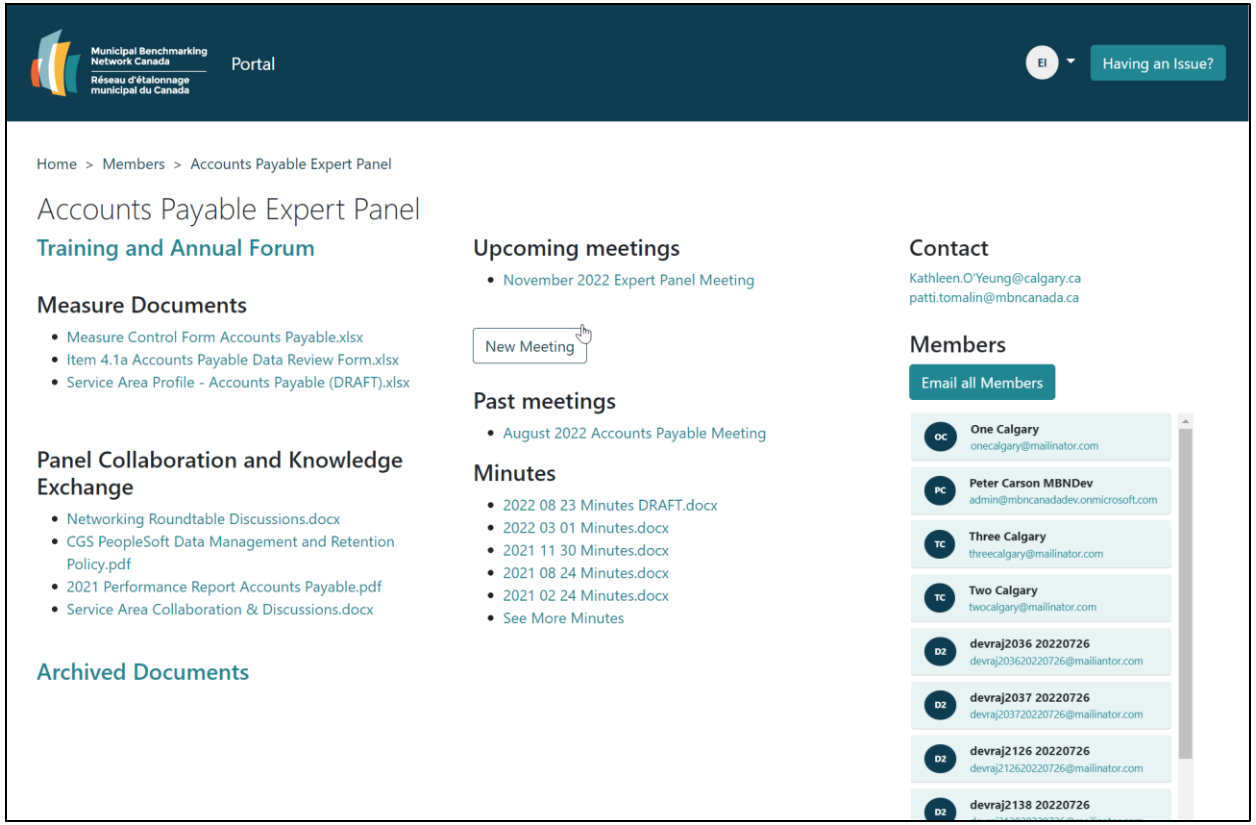


Municipal Data - Sudbury 2021

Line	Description	Numerator	Denominator	Result	Previous Result	% Change	Variance and Data Specific Comments	Municipal Data Source
MUN001	Population				161,531			
MUN002	Households				75,792			
MUN005	Geographic Area (Sq. Km)				3,625.00			
MUN008	Population Density				44.56			
MUN010	Total Budgeted Municipal FTE				2,673.00			
MUN020	Municipal Expenses (Operating)				$520,640,300			
MUN025	Municipal Expenses (Operating and Capital)				$654,311,740			
MUN030	Municipal Purchases (Operating and Capital)				$328,480,900			
MUN050	Municipal Operating Costs				$520,640,300			
MUN065	Total Property Assessment (used in Fire Service area only)				$20,138,985,000			

Expert Panel Landing Page

- Panel members access
  - Relevant Panel Documents
  - Upcoming and Past Meeting Info and supporting documents
  - Expert Panel Member Contact Info
- MBNCanada creates new meetings and supporting documents here


Municipal Benchmarking Network Canada
Réseau d'étalonnage municipal du Canada
Portal
EI
Having an Issue?
New Meeting
Email all Members

Home > Members > Accounts Payable Expert Panel

Accounts Payable Expert Panel

Training and Annual Forum

Measure Documents

- Measure Control Form Accounts Payable.xlsx
- Item 4.1a Accounts Payable Data Review Form.xlsx
- Service Area Profile - Accounts Payable (DRAFT).xlsx

Panel Collaboration and Knowledge Exchange

- Networking Roundtable Discussions.docx
- CGS PeopleSoft Data Management and Retention Policy.pdf
- 2021 Performance Report Accounts Payable.pdf
- Service Area Collaboration & Discussions.docx

Archived Documents

Upcoming meetings

- November 2022 Expert Panel Meeting

Past meetings

- August 2022 Accounts Payable Meeting

Minutes

- 2022 08 23 Minutes DRAFT.docx
- 2022 03 01 Minutes.docx
- 2021 11 30 Minutes.docx
- 2021 08 24 Minutes.docx
- 2021 02 24 Minutes.docx
- See More Minutes

Contact

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devraj203720220726@mailinator.com

D2 **devraj2126 20220726**
devraj212620220726@mailinator.com

D2 **devraj2138 20220726**

Azure AD Versions

- Free
  - Included with any commercial online service
- Office 365
  - Office 365 E1, E3, E5, F1 and F3 subscriptions
- Security Defaults available in Free and Office 365
  - Mobile App MFA for all users - no configuration
  - Blocks legacy authentication protocols
- Azure AD P1
- Azure AD P2

Azure AD Multi-Factor Authentication versions and consumption plans - Microsoft Entra | Microsoft Learn

Azure AD P1 vs. P2

Azure AD Premium P1

- Conditional Access
  - Multi-factor authentication
  - **Terms of Use**
- Hybrid Identities
- Password protection (custom banned passwords)
- Advanced Security and Usage Reports
- Conditional Access based on group, location, and device status
- Azure Information Protection integration
- And Much More

$7.70 / user / month

Azure AD Premium P2

- Everything offered in P1
- Identity Protection
- Privileged Identity Management
- Access reviews
- Entitlement Management (Preview)

$11.50 / user / month

Types of Azure AD Users and Authentication

Member - Synced

- Synced from on premise Active Directory
- Authentication options
  - Password hash synchronization (PHS)
  - Pass-through authentication (PTA)
  - Federation

Member – Cloud Only

- Account only exists in the cloud
- Authentication options
  - Cloud password
  - Federation

Guest

- Invited in
  - Microsoft 365
  - Azure guest invitation
- Authentication Options
  - Their Microsoft organizational or personal credentials
  - Google, Facebook
  - Federation
  - One time passcode

Azure AD Connect: User sign-in - Microsoft Entra | Microsoft Learn

Microsoft Keynote at RSA 2022

>900	Password attacks per second 2X last year
1 hour 42 minutes	Median time for an attacker to access your private data if you fall victim to a phishing email
1 hour 12 minutes	Median time for an attacker to being moving laterally within your corporate network if a device is compromised

Microsoft at RSA 2020

> 1.2M	Compromised accounts in January 2020
99.9%	Compromised accounts did not have MFA
99%	Password spray attacks used legacy authentication
> 97%	Replay attacks used legacy authentication

Base Conditional Access Recommendations

- Create an emergency account
- Create separate cloud-only admin accounts
- Minimize the number of policies to reduce the risk of leaving gaps in your policies
- Block legacy authentication protocols
- Apply policies to all apps
- Define at least three sets of user groups
  - Admins
  - General users
  - External (guest) users
- Require MFA for all member users
- Define more restrictive policies for admins
- Block access from countries that you never expect a sign-in from

MFA Scenarios

Admins

- Require MFA on every authentication

Members

- Rules can be more flexible
- Don’t need MFA on every authentication
- Every x days on the same device
- Additional rules
  - Joined device
  - Geography
  - Identity Protection score
  - Incorrect password

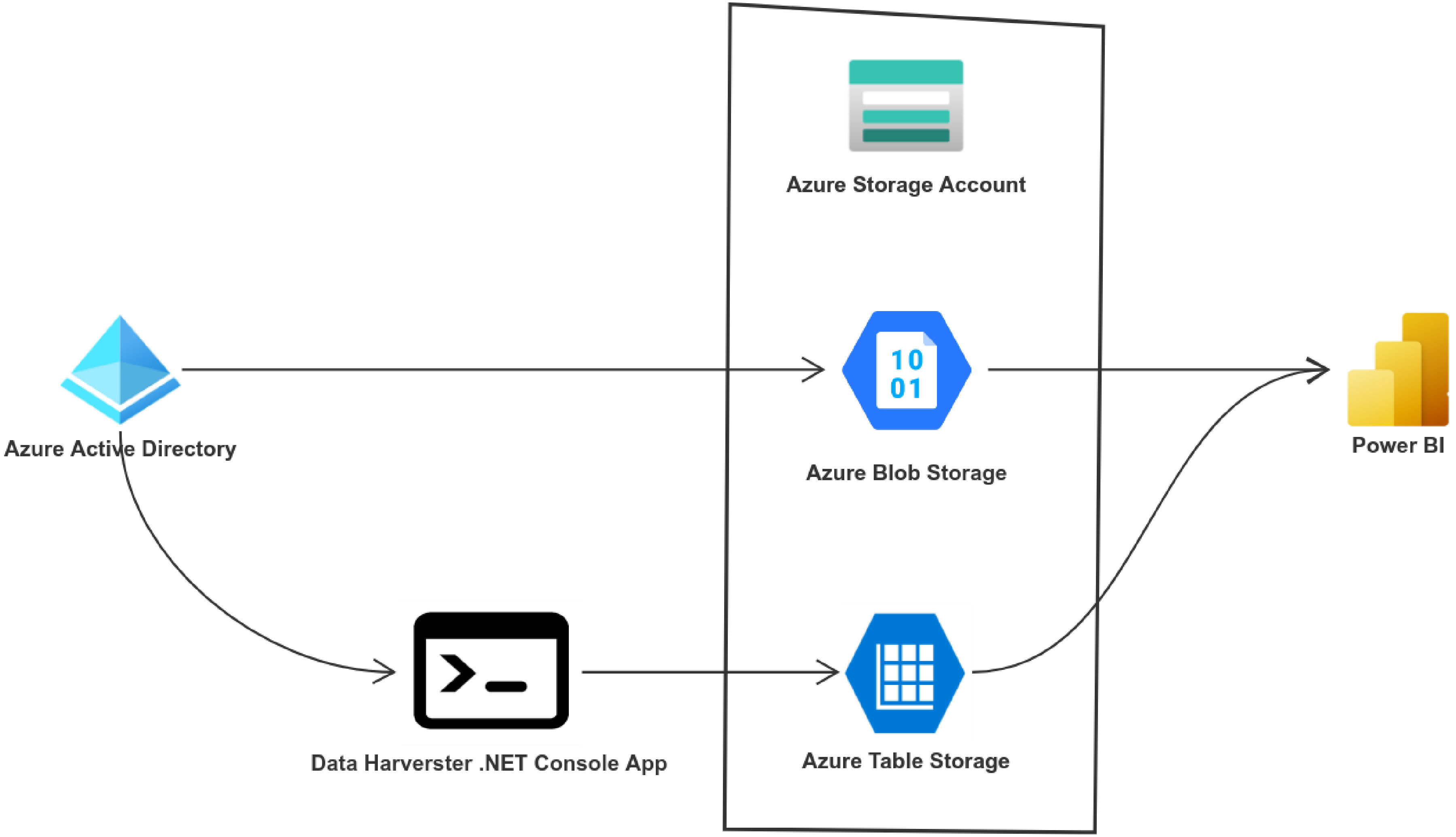
Guests

- Decide if MFA is required
- User experience and support cost to requiring it
- Doesn’t need to be all or nothing
- Sensitivity labels are a good way to control this

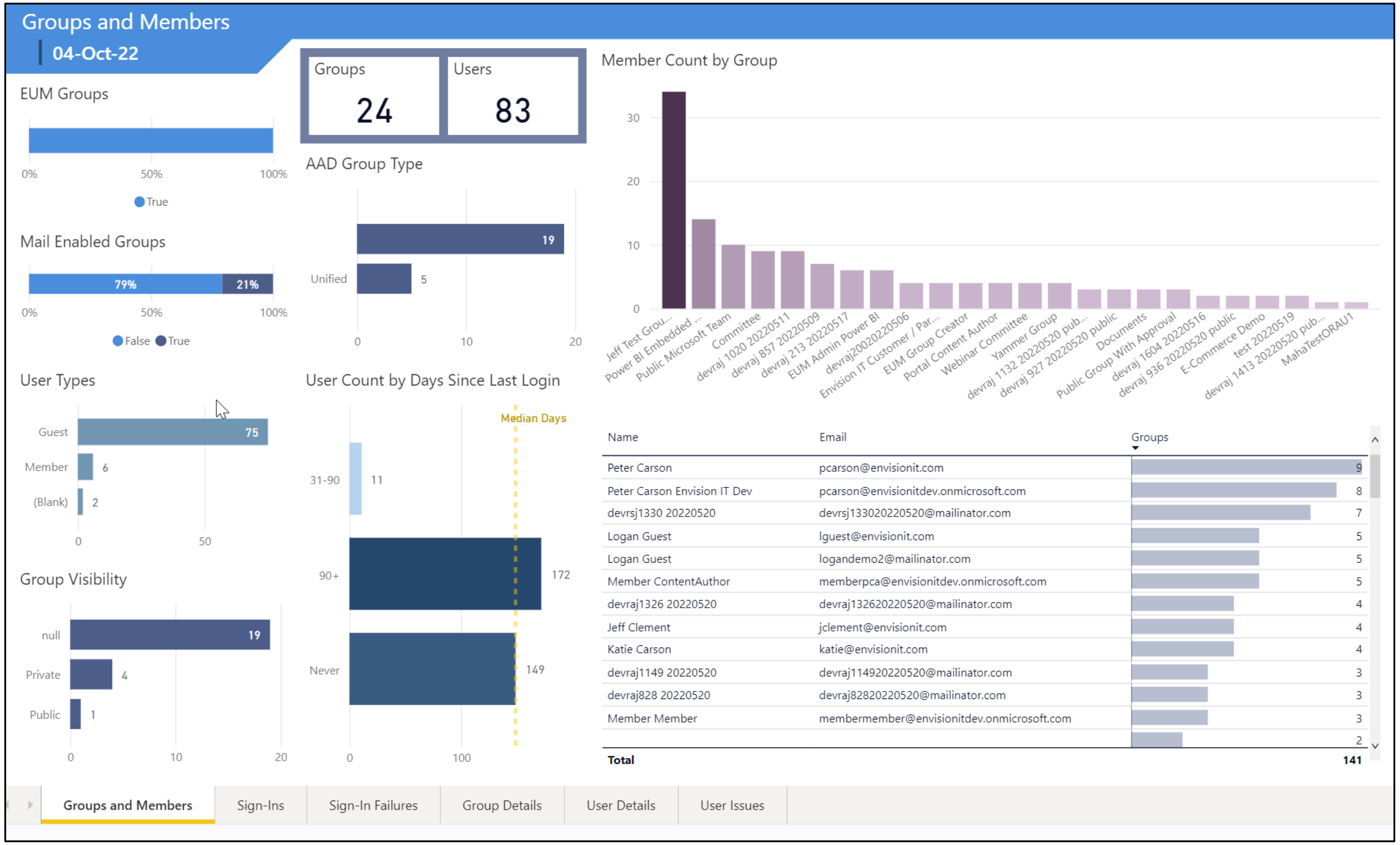
Azure AD B2B Health

- User Type Not Populated
  - Users created before Aug 2014 when B2B first launched
- Mismatch Between Email and UPN
  - Can cause confusion when signing in
- Missing Email
  - Email is required for direct sign in without accepting the Microsoft invitation
- Unaccepted Invitations
  - Invitations are no longer needed
  - Users that were invited when it was required and didn't accept can't sign in
  - Resending the invitation still requires them to use the invitation
  - Deleting and re-inviting them allows them to sign in without the invitation
- Conflicting Microsoft Account
  - Brings up work/school or personal account dialog
  - Doesn't always prompt
  - Causes confusion

Power BI Data Harvester

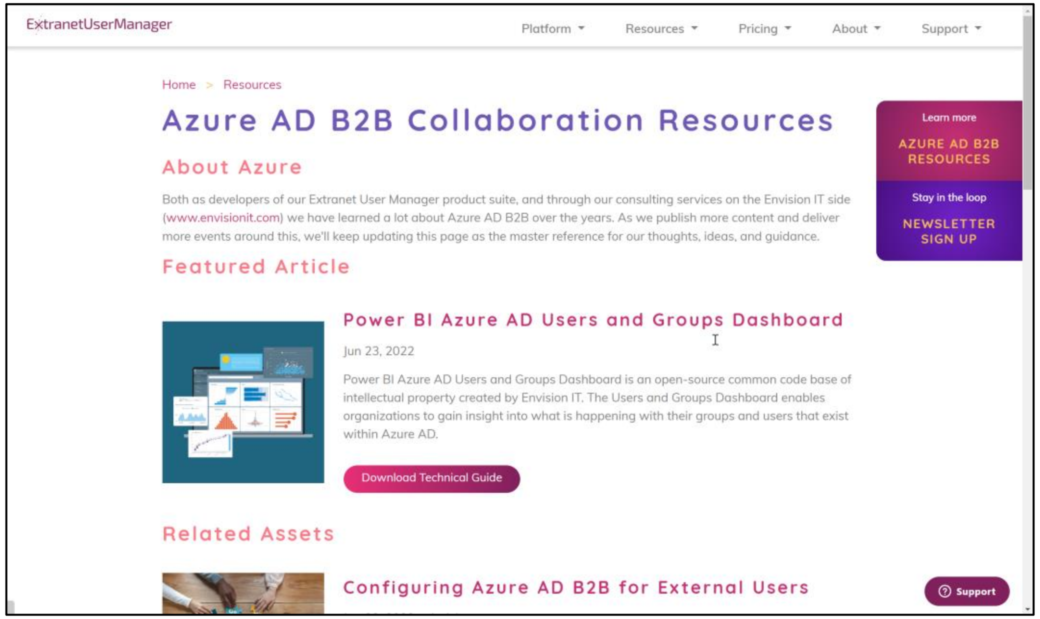


Azure AD Power BI Dashboard



Name	Email	Groups
Peter Carson	pcarson@envisionit.com	9
Peter Carson Envision IT Dev	pcarson@envisionitdev.onmicrosoft.com	8
devrsj1330 20220520	devrsj133020220520@mailinator.com	7
Logan Guest	lguest@envisionit.com	5
Logan Guest	logandemo2@mailinator.com	5
Member ContentAuthor	memberpca@envisionitdev.onmicrosoft.com	5
devraj1326 20220520	devraj132620220520@mailinator.com	4
Jeff Clement	jclement@envisionit.com	4
Katie Carson	katie@envisionit.com	4
devraj1149 20220520	devraj114920220520@mailinator.com	3
devraj828 20220520	devraj82820220520@mailinator.com	3
Member Member	membermember@envisionitdev.onmicrosoft.com	3
		2
Total		**141**

Azure AD B2B Resources



Azure AD B2B Collaboration Resources

About Azure

Both as developers of our Extranet User Manager product suite, and through our consulting services on the Envision IT side (www.envisionit.com) we have learned a lot about Azure AD B2B over the years. As we publish more content and deliver more events around this, we'll keep updating this page as the master reference for our thoughts, ideas, and guidance.

Featured Article

Power BI Azure AD Users and Groups Dashboard

Jun 23, 2022

Power BI Azure AD Users and Groups Dashboard is an open-source common code base of intellectual property created by Envision IT. The Users and Groups Dashboard enables organizations to gain insight into what is happening with their groups and users that exist within Azure AD.

Download Technical Guide

Related Assets

Configuring Azure AD B2B for External Users

www.eum.co

https://www.extranetusermanager.com/resources/Azure-AD-B2B-Collaboration-Resources
https://github.com/extranet-user-manager/EUM_AzureADPowerBI

Additional Links

- Sector 2022 Conference Presentation: Azure AD and Microsoft 365 Security Fundamentals | Extranet User Manager
- Azure B2B and Guest Management Best Practices | Extranet User Manager
- SecTor IT Security Conference 2021 - Secure and Scalable Development with Microsoft 365 and Azure AD | Extranet User Manager