Power BI Monitoring 101

Microsoft

Rui Romano (he/him)

Sr Program Manager | Power BI CAT

Professional:

LinkedIn - /in/ruiromano
Twitter - @RuiRomano
Open Source - https://github.com/RuiRomano
Former Microsoft MVP
Co-Founder of Power BI Portugal User Group

Personal:

Snowboarding, Swimming, Sports
Cats, Cinema & Popcorn, Xbox
Sun, Beach

Objective:

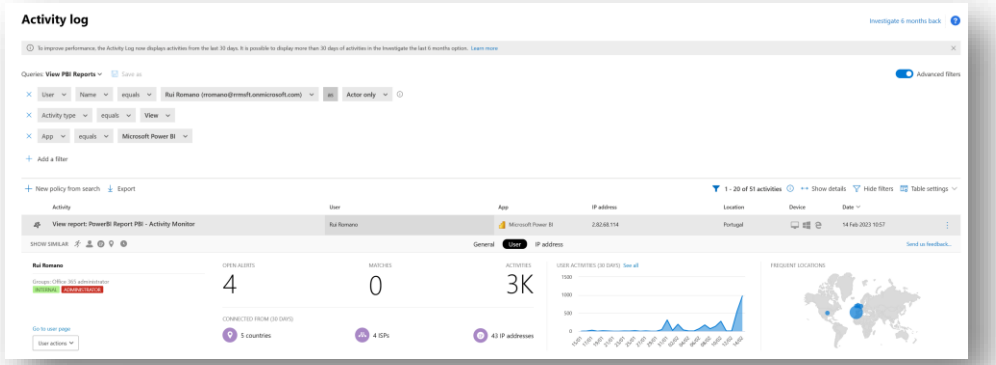
Talk about all the monitoring options available today for each Persona (Admin, Developer,…)

Personas

Persona	What they care about?
Tenant Admin	• Who is using my tenant? How are they using it? • How many licenses I have? Are they being used? • Is my tenant healthy? How can I view if there is any issue? • Where is data coming from? Which datasources? Who is using them? • Who has access to what? • How many capacities do I have? Are they properly balanced?
Capacity Admin	• Is my capacity healthy? • Am I reaching my capacity limits? • Who is consuming most of the capacity and where?
Gateway Admin	• What's the usage of my gateways? • Which queries are running on my gateways to which datasource? • Why are my gateways failing?
Workspace Admin	• Artifact size and trend? • Usage of artifacts? • Who has access to what? • Are there any errors on my artifacts? Ex: Refresh fail? • Are reports getting slower? • Are refreshes getting slower?
Developer	• What queries / events are being executed on my artifacts? • Why is my refresh slow? • Why is my query slow?
"The Guy we all Know"	• All above ☺

Persona: Tenant Admin

- Admin Portal
  - https://app.powerbi.com/admin-portal
  - Usage Metrics
  - Capacities, Workspace, Visuals Lists
- Microsoft 365 Defender
  - https://security.microsoft.com/
  - Audit Log (Power BI & Entire O365 & PowerPlatform)
  - Create alerts/policies over the activity log, ex: when a tenant setting changes (near realtime)
- Azure AD Privileged Identity Management (PIM)
  - Monitor and Control who and when gets Power BI Admin Role
- Admin APIs – Build your own usage monitoring
  - Scanner APIs
  - Activity Events API
  - Permission APIs
  - Microsoft Graph APIs – User, Groups, License Information
  - End to End solution - https://github.com/RuiRomano/pbimonitor

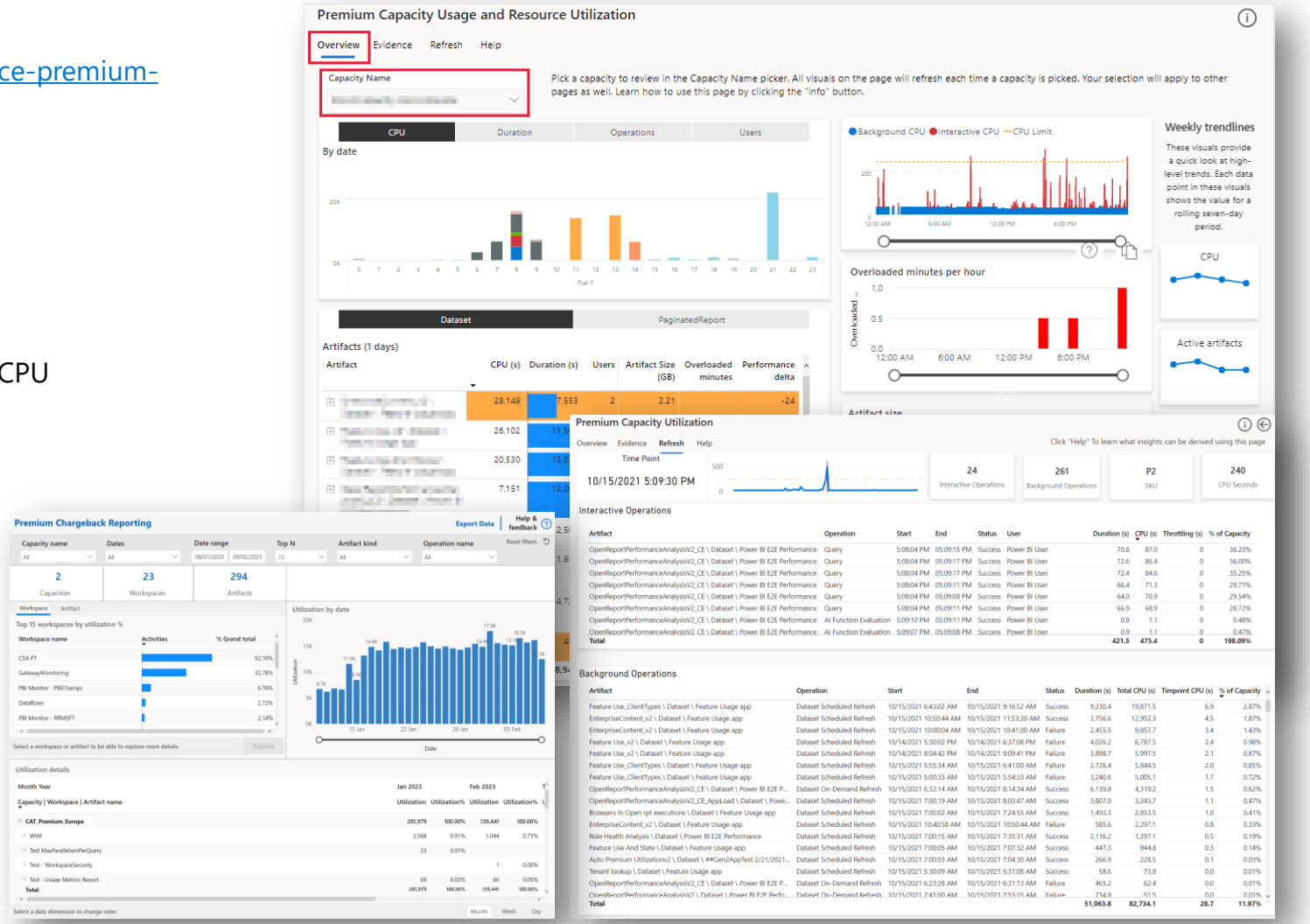


Coming soon...

- Admin Monitoring

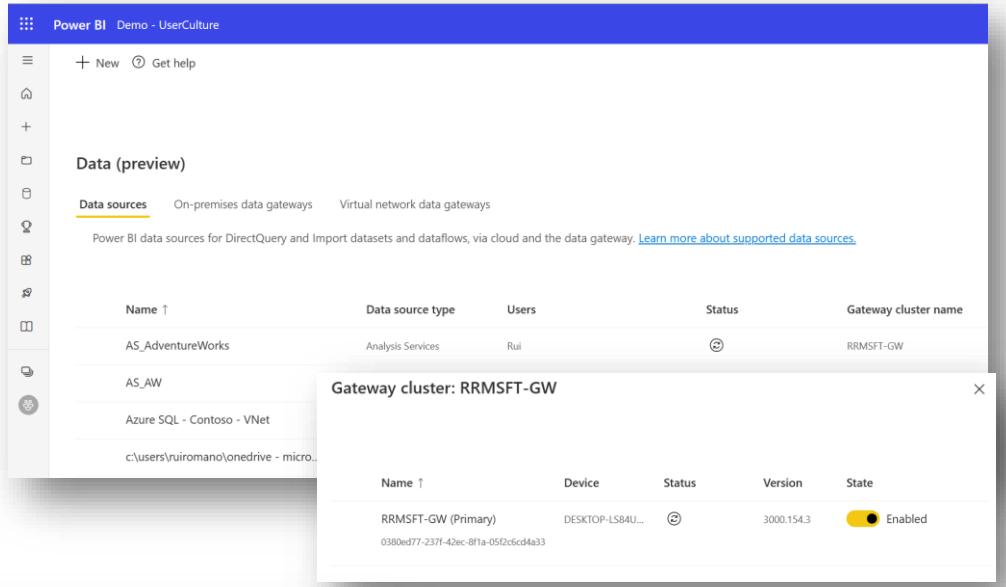
Persona: Capacity Admin

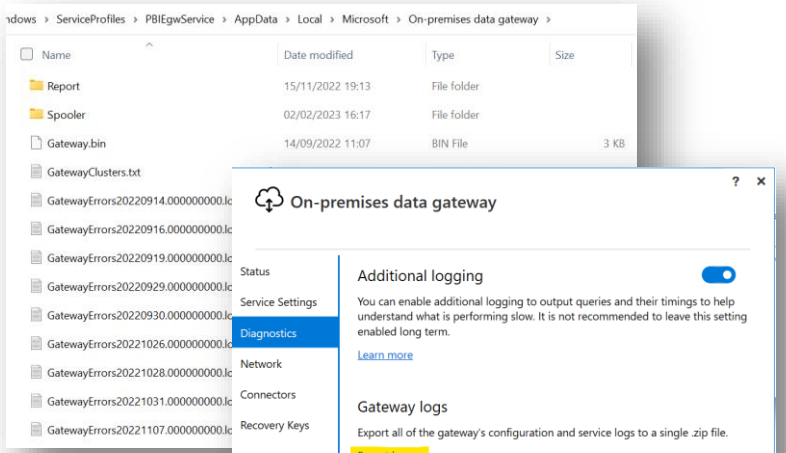
- Capacity Metrics App
  - https://learn.microsoft.com/en-us/power-bi/enterprise/service-premium-metrics-app
  - Build your own reports and export data
  - 14 days of data
  - Near real-time
- Log Analytics
  - In depth analysis of dataset performance issues
  - Granular Drilldown: dataset -> report -> visual -> query -> CPU
  - Useful links: template; visual mapping
- Chargeback App (Private Preview)
  - 30 days of data
- APIs – Build your own
  - Get Capacities
  - Get Refreshables
  - Assign to Capacity
  - Query the dataset using XMLA or REST API

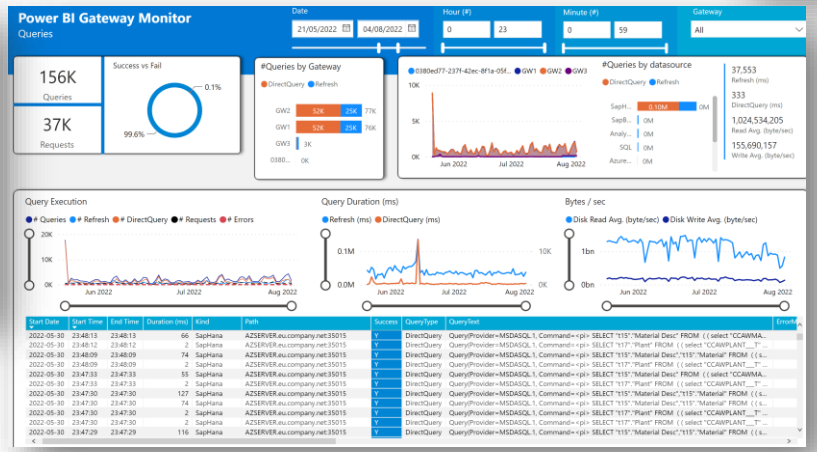


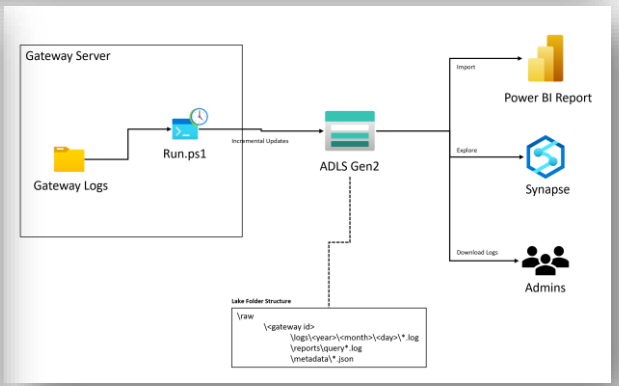
Persona: Gateway Admin

- Gateway Data Source Management
  - New data source and gateway management experience
  - View all datasources & gateways
  - View & Manage the Gateway Clusters (ex: disable a node)
- Gateway Logs
  - Stored on each gateway node (rotating logs)
  - Get valuable insights directly from logs
  - End to end solution: github.com/RuiRomano/pbigtwmonitor; session



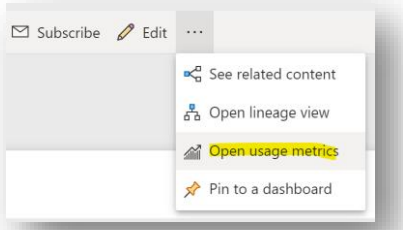


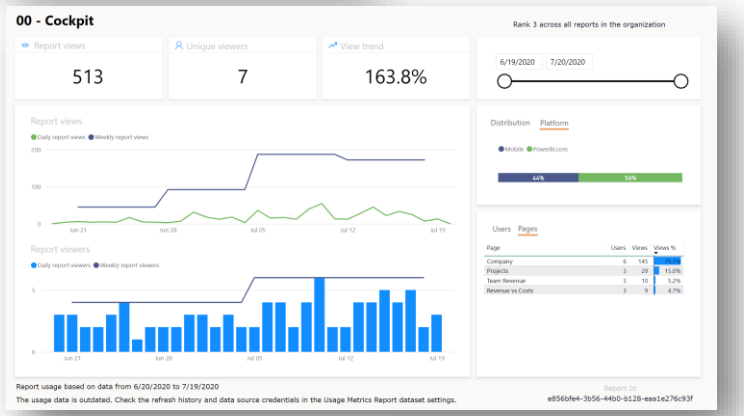


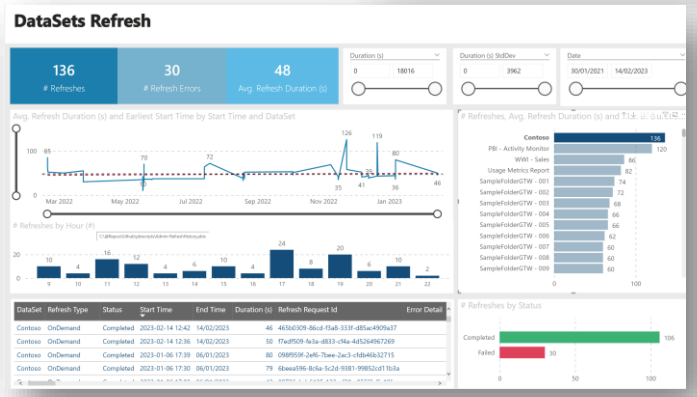


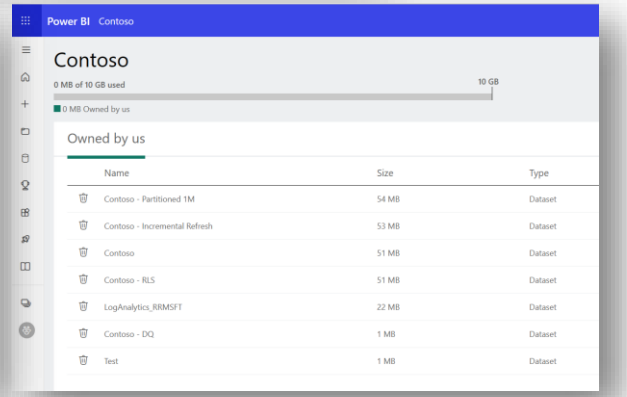
Persona: Workspace Admin

- Usage Metrics
  - https://learn.microsoft.com/en-us/power-bi/collaborate-share/service-modern-usage-metrics
  - Workspace level
  - 7 days
  - Page level telemetry (ex: pages viewed)
- Workspace Storage
- User APIs
  - Get Refresh History (sample script)
  - All other User APIs available
- If the Tenant Admin builds a Monitoring Dataset its possible to share it with Workspace Admins and leverage RLS



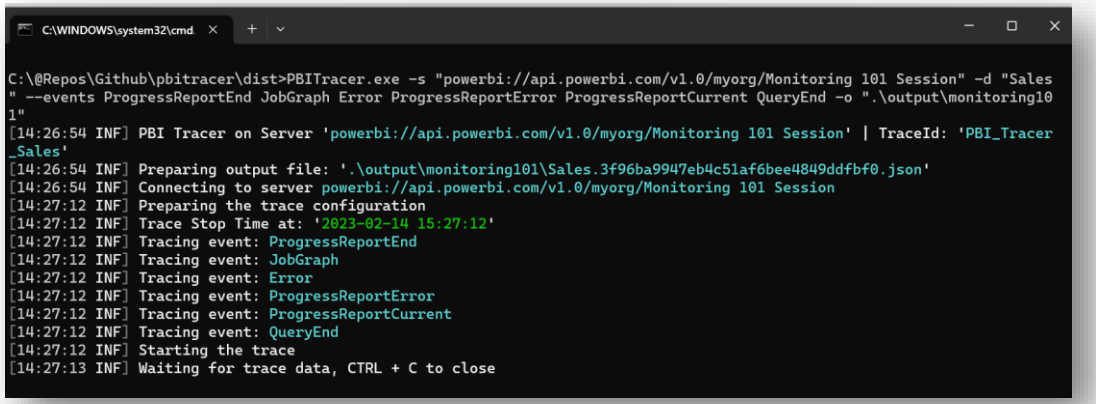


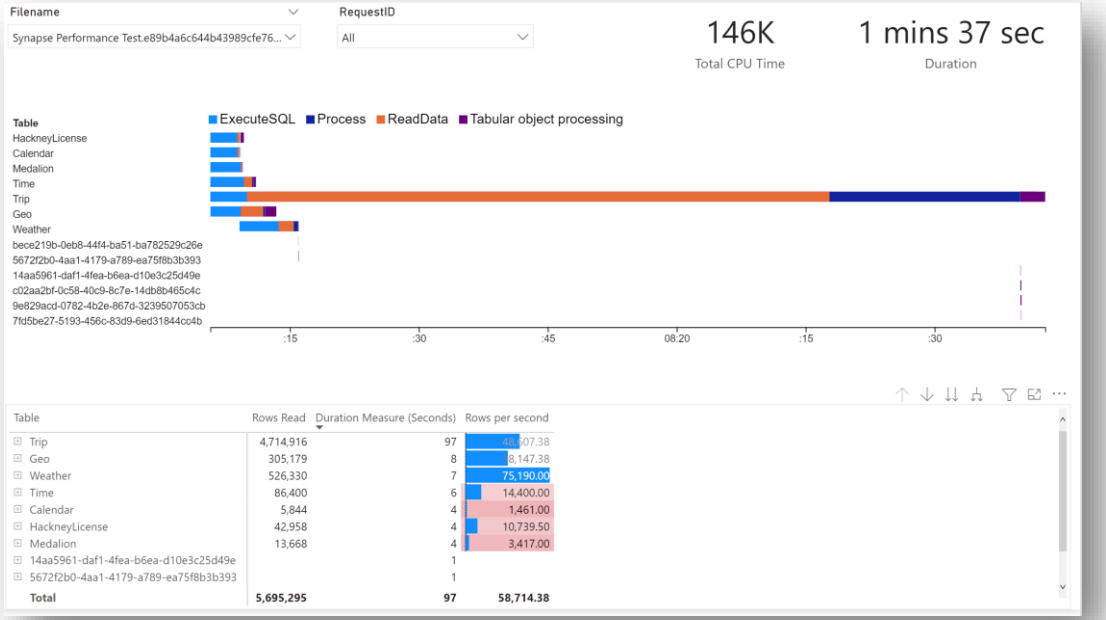




Persona: Developer

- Log Analytics
  - Really helps when your capacity admin tells you “Hey! Your dataset is killing my capacity…, go figure it out!”
  - Troubleshoot bad performance queries in production; Refresh throughput
- SSMS & SQL Profiler
  - Why trace a dataset? Ex: To troubleshoot a long refresh or long DAX query; To know in real-time who is querying your dataset
- DAX Studio
  - All Queries trace; Trace the DAX Queries from a Report in the Service
- PBI Tracer
  - Dump a trace into files as JSON
  - Profile Dataset Refreshes => Focus on what really matters
- DMVs
  - DISCOVER_STORAGE_TABLE_COLUMN_SEGMENTS – Which columns are used?





CLOSING REMARKS

IT'S NOT ABOUT WHAT YOU KNOW.
IT'S ABOUT WHAT YOU KNOW IS POSSIBLE.

Thank You

@ruiromano

/in/ruiromano