**What's new in Dynamics 365 Business Central telemetry - February 2023**

It is February and it has been a month since the last newsletter. I think that you will like the content this month, I have many cool news to share…

As always, the bleeding edge news on Dynamics 365 Business Central telemetry happens on Twitter, so if you want to keep up with the latest and greatest (and the beta versions of the Power BI telemetry apps) then follow me there (@kennienp). The intention of these monthly newsletters is to try to gather everything that I know and learn about this area and present it here. Let’s go…

In the February 2023 edition, read about these things:

* Using Power BI metrics to track Business Central telemetry KPIs
* Updating Power BI app datasets using APIs
* Power BI Usage apps – February updates
* New signal/updates?
* Documentation improvements?
* Tips and Tricks

**Using Power BI metrics to track Business Central telemetry KPIs**

The Power BI apps on telemetry delivers great insights on usage, stability, performance, and lifecycle events on environments. You know that if you read this newsletter (I hope. If not, hurry over to aka.ms/bctelemetry and get started. Really. Stop reading, set up telemetry and apps and then come back here.) But what if you want to use telemetry insights to start initiatives to improve things? Wouldn’t you like to be able to track if your initiatives actually change things without the need to visit the reports daily and note down changes in numbers? A prime example of this is when driving down errors before, during, and after go-live. The Error report has a dashboard that you can use to see all error metrics across all error types

<insert screenshot>

The go-live team should use this data to resolve classes of error issues so that the go-live feels as smooth as possible, but the dashboard shows metrics based on all errors that is present in the dataset for the report. So, tracking change in error counts based on this dashboard is not easy. Until now. In the February release of the Power BI app, we added three KPIs on all error pages: all errors, errors last week (seven days back), and errors since yesterday. Here is an example on how it looks like:

<insert screenshot>

“But Kennie, that does not really help us much! It is nice to see the new metrics, but we still need to open all error pages every morning. We don’t have time for that!”

I agree. But stay with me a little longer… The reason we added all these metrics is to enable you to use Power BI Metrics together with the Power BI apps on telemetry. Whaat? Yet another tool for us to learn? Yup, and I think you will looove it. Let me take you on a quick tour.

You find Power BI Metrics here on the Power BI portal:

<insert screenshot>

Create a new scorecard, and add you first metric:

<insert screenshot>

Connect to data

<insert screenshot>

Find the error report

<insert screenshot>

Pick an error page and a metric (for go-lives, maybe track the “last week” KPI)

<insert screenshot>

And voila! You have created your first metric. “Yeah, ok. Now I can pin KPIs visuals to my own dashboard. Nice. But I want to track progress.” I know. Let that dashboard simmer for a few days and come back. Since the Power BI apps refresh data every night (by default), you can actually see the values of the KPI over time on the scorecard:

<insert screenshot>

Nice, right? But the cool stuff start now. You can setup goals for state changes on that metric directly in Power BI metrics:

<insert screenshot>

and the scorecard will automagically show the states on the scorecard.

And now to the part that will knock off your socks: State change events will automagically show up in Teams:

If you liked that story (I call it Data-driven go-lives), I put it into a PowerPoint deck that you can download from BCTech here:

<https://github.com/microsoft/BCTech/tree/master/samples/AppInsights/Presentations#what-power-point-presentations-are-available>

You can use the deck to pitch the idea internally in your partner practice or maybe even to the project team, including the customer sponsor. Or copy the deck and make it your own to present at user groups and/or conferences. As with everything on the BCTech repository, it is open source licensed with a very generous license (MIT license).

**Using telemetry to deliver data-driven product insights**

Speaking of being data-driven, Niall McGovern, who is a product manager at Business Central partner 4PS, blogged about using telemetry to take strategic decisions for the apps he is responsible for.

If you work as an ISV, spend 5 minutes to learn from him

<https://www.4ps.co.uk/insights/from-directions-to-actions/#:~:text=What%E2%80%99s%20really%20going%20on%3F%20Using%20telemetry%20to%20deliver%20data%2Ddriven%20product%20insights>

One thing that Niall does not mention is Feature Telemetry. This is the system layer module that the AL developers within Microsoft use to instrument our features in the base app and in the system application. But from where I sit, Microsoft is just a YAIASV (yet another ISV), so of course the Feature Telemetry module has been designed to support all ISVs out there. Curious? Go here to learn more: <https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/administration/telemetry-feature-telemetry>

**Updating Power BI app datasets using APIs**

If you have many installs of the Power BI apps on telemetry, here are two docs links that you might want to explore. They describe two ways that you can use to automate install and dataset parameters:

1. <https://learn.microsoft.com/en-us/power-bi/connect-data/template-apps-auto-install>
2. <https://learn.microsoft.com/en-us/rest/api/power-bi/datasets/update-parameters>  (Not template apps specific, it's general API)

**Power BI Usage apps – February updates**

First, some updates on uptake and MAU of the Power BI apps: We now have more than 900 apps that refresh data every day. This means that data is available for partners and customers to analyze right away in case there are questions on usage or issues that need taken care of. Seen in the light of the Power BI metrics story highlighted above, this also means that more than 900 organizations potentially can start taking their telemetry journey from data (raw telemetry in Application Insights) to information (Power BI) and now to actions (Power BI metrics and Teams).

The February update for the apps does not have tons of new features and improvements. But some things might be worth your while.

In both apps

* Error report: all pages now have tiles that show total number of errors, errors last week, and errors since yesterday.

Environment Usage app

Usage report

On page 'Deprecated features' - show different icon/text if no data is available

On page 'Clients', changed 'Browser statistics' visual to a matrix

On integrations page, added visual to show outgoing calls by host

Error report

On all pages, added visuals to show count last day, last week, older

On page 'login errors' page, add link to TSG on docs, show different text if no data is available

About the report, missing link to error message votes KQL sample url

Dataset

Tuned data load for PageViewPerformance. Partitioned load into 24 hour partitions. Moved client info (screen size, language, locale, ..) into its own table. This will allow the app to load more pageview data (for bigger telemetry databases).

Dataset: Tuned data load for ReportPerformance. Moved payload info (layout, report format/action, ..) into its own table. This will allow the app to load more pageview data (for bigger telemetry databases).

See the full change log here:

https://github.com/microsoft/BCTech/blob/master/samples/AppInsights/PowerBI/Reports/AppSource/environment-app-pbix/changelog.txt

App Usage app

Usage report

integrations page, added visual to show outgoing calls by host

Errors report

On all pages, added visuals to show count last day, last week, older

Dataset

fixed issue with JSON parsing in appsource validation data

Moved client info (screen size, language, locale, ..) out of pageviewperformance and into its own table. This will allow the app to load more pageview data (for bigger telemetry databases).

**New signal/updates**

We are finalizing the 2023 release wave 1 and here are some smaller improvements that will come in version 22.0:

* Error message telemetry (event RT0030) will include the error text in English in the custom dimension alEnglishLanguageDiagnosticsMessage
* Incoming web service telemetry (event RT0008) will include the time spent waiting in the throttling queue in the custom dimension requestQueueTime
* Long running AL method telemetry (eventId RT0018) will include details on SQL operations in the custom dimensions sqlRowsRead and sqlStatements
* Outgoing web service telemetry (eventId RT0019) will include details on client type and AL stack trace in the custom dimensions clientType and alStackTrace

KQL samples have already been updated, see [BCTech/samples/AppInsights/KQL/Queries/ExampleQueriesForEachArea at master · microsoft/BCTech (github.com)](https://github.com/microsoft/BCTech/tree/master/samples/AppInsights/KQL/Queries/ExampleQueriesForEachArea)

The Power BI apps will be updated to use this information in the April 2023 update.

Coming soon/in the works (no ETA given)

* Information on files blocked from upload due to malware scanning (only in the online version).
* AL stack trace will be added to job queue error signal (21.3?).
* Ability for on-premises environments to set Environment Name as part of mounting.
* Error codes in failed OData calls to help troubleshoot 400 return code signal.
* PTE validation signal (PTEs that block updates to next major)

**Tips and Tricks**

KQL sample code has been added for telemetry on error message votes

https://github.com/microsoft/BCTech/blob/master/samples/AppInsights/KQL/Queries/ExampleQueriesForEachArea/Errors.kql

The Q&A from the #msdyn365bc office hours call on Telemetry in October 2022 is now available here:

https://github.com/microsoft/BCTech/blob/master/samples/AppInsights/FAQ.md#qa-from-office-hours-2022-10-04

**Blog posts and videos**

Our great telemetry heros have been busy in January. Here are some blogs that I have seen in the wild. There might be more (let me know or do PRs to the blogs/videos pages on BCTech)

Bert Verbeek discusses that telemetry is not only for troubleshooting:

<https://www.bertverbeek.nl/blog/2023/01/18/telemetry-is-not-only-about-performance/>

Stefano Demiliani discusses how to query ingestion telemetry on Log Analytics (the backend for Application Insights) to learn about your telemetry cost:

<https://demiliani.com/2023/01/18/telemetry-with-azure-application-insights-prevent-anomalies-on-data-ingestion/>

Did you know that the BCTech repo has pages with links to blog posts and videos on telemetry?

Blogs: https://github.com/microsoft/BCTech/blob/master/samples/AppInsights/BLOGS.md

Videos: https://github.com/microsoft/BCTech/blob/master/samples/AppInsights/VIDEOS.md

If you create blog posts/videos on telemetry (or know of things that are not linked from these two pages), feel free to do a pull request to the repository (or send me an email/message)

**That’s all folks!**

That's it for the February newsletter. If you made it all the way down here, then you are truly a Telemetry Hero. See you in a month.

PS. Would love to hear your thoughts on using Power BI metrics to be more data-driven with telemetry. Reach out (or blog about your experiences.)