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

It is April and it has been a month since the last newsletter.

We are wrapping up the 2023 release wave 1 of Business Central and this also means improvements to telemetry.

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 April 2023 edition, read about these things:

* History of the Business Central telemetry feature part 1 – getting data
* Upcoming conference sessions
* Power BI Usage apps – April updates
* New signal/updates
* Documentation improvements
* Tips and Tricks

# History of the Business Central telemetry feature part 1 – getting data

Might not get to this in the March newsletter.

# Upcoming conference sessions in April 2023

**DynamicsCon Virtual (March 15-16)**

I just finished recording this session with the production crew.

A picture containing text

Description automatically generated

Join me at the DynamicsCon Virtual conference (online and free) on March 16 to learn how to use Dynamics 365 Business Central telemetry before/after your go-live? Session is both for customers and partners.

Read more and join the event here:

https://dynamicscon.com/submission/get-low-friction-go-lives-and-optimize-your-investments-with-telemetry-data/

**Days Of Knowledge Uk (March 23 – 24)**

Telemetry Hero and Microsoft MVP Krzysztof Bialowas is doing his full day workshop Telemetry Deep-Dive at the precon day on March 23.

Read more here: <https://directions4partners.com/days-of-knowledge/uk-2023/schedule/?tid=444622>

Krzysztof is also doing 90 min deep dive session on telemetry on March 25.

Read more here: https://directions4partners.com/days-of-knowledge/uk-2023/schedule/?tid=429141

On March 24, Microsoft MVP (and API Hero) Arend-Jan Kauffmann is doing a 90 min deep dive on Business Central APIs and he told me that he will also cover telemetry as seen from the API developer and consumer side.

Read more here: https://directions4partners.com/days-of-knowledge/uk-2023/schedule/?tid=442152

See the full conference schedule here:

https://directions4partners.com/days-of-knowledge/uk-2023/schedule/

**Conferences in April, May, and June 2023**

There will also be telemetry sessions at the conferences mentioned below. In upcoming newsletters, I will go more into details about the sessions there.

Business Central Launch event (April 2023), online (agenda not published yet, registration needed, attendance is free)

https://aka.ms/bcle

Directions North America (April 16-19, 2023) in Orlando, Florida

https://directionsna.com/

Directions Asia 2023 (April 27 - 28, 2023) In Bangkok, Thailand.

https://directions4partners.com/events/directions-asia-2023/

Days Of Knowledge Central (May 25 - 26, 2023) in Dusseldorf, Germany

https://directions4partners.com/days-of-knowledge/central-2023/

Days Of Knowledge Nordic 2023 (June 1 - 2, 2023) in Odense, Denmark

https://directions4partners.com/days-of-knowledge/nordic-2023/

BC/NAV Techdays 2023 (June 22-23, 2023) in Antwerp, Belgium

https://www.bctechdays.com/

# Power BI Usage apps – April updates

First, some updates on uptake and MAU of the Power BI apps:

We now have almost 1000 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 almost 1000 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 total DAU (Daily Active Users) of the apps is now stable 100+ during the weekdays and table 10-20 DAU during weekends (so we even have users who cannot stop using the apps on a Saturday or Sunday). The number of organizations with stable MAU (Monthly Active Users) numbers is also growing, which indicates that more and more partners integrate telemetry in their partner practices. Very nice to see this progress.

The April update for the apps have mainly been focused on performance tuning of data loads, although I could not resists adding a few smaller feature improvements as well.

**Environment Usage app**

Usage report

Performance report

Error report

Administration report

Dataset

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**

Dataset

Usage report

Performance report

Error report

See the full change log here:

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

# New signal/updates

**Company initialized telemetry in 22.0**

We are adding telemetry on the event OnCompanyInitialized.

// initialize company

// Introduced in version 22.0

traces

| where timestamp > ago(60d) // adjust as needed

| where customDimensions has 'AL0000EIW'

| where customDimensions.eventId == 'AL0000EIW'

| project aadTenantId = customDimensions.aadTenantId

, environmentName = customDimensions.environmentName

, environmentType = customDimensions.environmentType

, companyName = customDimensions.companyName

, isEvaluationCompany = customDimensions.alIsEvaluationCompany

, tenantLicenseState = customDimensions.alTenantLicenseState

, userRole = customDimensions.alUserRole

, userIsAdmin = customDimensions.alIsAdmin

, usertelemetryId = user\_Id

KQL sample

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

The Power BI report Company Lifecycle has been updated with this.

**Onboarding telemetry in 22.1**

We are adding telemetry on the events

* a user completes an onboarding criteria in a company
* (maybe) a user completes onboarding in a company

This is already available in 21.5, but we discovered that some dimensions are still missing, so this is not supported before everything is looking just right.

In case you cannot wait, the draft KQL sample is available on BCTech (see below).

Also, if you have feedback for Søren and his team on this, please comment on this Yammer thread

<https://www.yammer.com/dynamicsnavdev/threads/2176728709914624>

Onboarding comes with an extensibility story and this will also work in the onboarding telemetry. So, as an ISV you might want to start thinking about your scenarios so that you can get customers onboarded (and get insights on this in telemetry).

PBI apps (for VARs and ISVs) will be updated in the May 2023 release to show this data. Stay tuned.

KQL sample

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

Docs is not updated yet (PR is in review).

**Added in 21.5: new dimensions on job queue**

In version 21.5, we added two new dimensions

alJobQueueNumberOfAttemptsToRun

alJobQueueMaxNumberOfAttemptsToRun

KQL sample

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

**New telemetry coming in 22.0: client actions**

First two actions logged are Analysis mode enabled/disabled on a list page.

Other candidates for client actions are: share, search, help pane opened, tooltip and tooltip link clicked, error message copied to clipboard. What else would you like to see in telemetry?

See KQL sample code here:

**Added in 21.4**

[Kennie Nybo Pontoppidan på Twitter: "New dimension added to Error telemetry in version 21.4: alEnglishLanguageDiagnosticsMessage Allows #msdyn365bc partners to troubleshoot errors regardless of the users’ language setting. #allthelittlethings https://t.co/Omdy6idOQ9" / Twitter](https://twitter.com/KennieNP/status/1632818479026905090)

**Added in x.y**

**Feature telemetry setup errors (for ISVs)**

We missed to document and make samples for feature telemetry setup errors in BC apps. Well, not anymore.

You can get KQL samples here:

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

The same sample code can be used for alerting, and the alerting scenario catalogue on BCTech have been updated accordingly

https://github.com/microsoft/BCTech/tree/master/samples/AppInsights/Alerts#alerting-condition-kql-samples:~:text=Feature%20telemetry%20app%20errors

In the April release of the Power BI app on ISV telemetry, we added a new page "Feature Telemetry App Errors",

see attached screenshot.

The beta version of the app is updated with this change, so you can also try it out today:

aka .ms/bctelemetry-isv-app

(remove the space)

I also took a look at the docs for this area and have patched a few holes. This will go live in a few days.

// Feature Telemetry app error

// More than one telemetry logger has been registered for publisher <publisher>

// The owner of the app needs to fix this if they want telemetry from the Feature Telemetry system module

traces

| where timestamp > ago(7d) // change as needed

| where customDimensions has 'AL0000G7J'

// Feature Telemetry app error

// An app from publisher <publisher> is sending telemetry, but there is no registered telemetry logger for this publisher.

// The owner of the app needs to fix this if they want telemetry from the Feature Telemetry system module

| where customDimensions.eventId == 'AL0000G7K'

**Added in 20.1**

In version 20.1, we added AL stack trace as a custom dimension to outgoing web service calls. This allows you to better troubleshoot where external calls occur in AL.

See KQL sample code here:

XXX

**Smaller improvements in 22.0**

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
* Error codes in failed OData calls (event RT0008) to help troubleshoot 400 return code signal.
* 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 might already have 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)..
* 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

**Deprecated in 22.0: using an instrumentation key for Business Central Telemetry**

According to docs

https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/administration/telemetry-enable-application-insights

*Depending on your Business Central version, when enabling telemetry, use the Connection String or Instrumentation Key of the Azure Application Insights resource.*

Well, for 2023 release wave 2

<insert screenshot>

<https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/upgrade/deprecated-features-platform#business-central-telemetry-using-an-instrumentation-key-removal>

**Calling external services in OnCompanyOpen / OnCompanyOpenCompleted**

We recently had an incident where a partner created a sev 2 ticket because no users could log on. In this case, it was not an outage but simply partner (ISV or PTE) code in a subscriber to the login events OnCompanyOpen / OnCompanyOpenCompleted where they called out to an external service and this endpoint took a long time to respond.

When doing the post mortem of the incident, we decided to do something about this. Hopefully, you can use this to check if your apps/PTEs can be hardened to not delay customer logins.

First, we have added new content on the developer performance tuning guide docs, see attached pdf

<https://learn.microsoft.com/en-us/dynamics365/business-central/dev-itpro/performance/performance-developer#outgoing-web-service-calls-block-al-execution>

(this will go live on docs next week)

Second, we have added a new alerting KQL query to BCTech

<https://github.com/microsoft/BCTech/tree/master/samples/AppInsights/Alerts#:~:text=LoginPerformance.kql-,Login%20performance,Performance,-VAR/ISV>

Any VAR/ISV can use this to analyze performance impact of this problem as seen from their environment(s) or how their apps affect customers. The query can also be used in a logic app to setup alerts to Teams/email/... to be proactive on this. See screenshot of the KQL query.

Third, the Power BI apps for VAR/ISV telemetry will have new insights to help analyze this problem (see attached screenshots). These insights will surface in the April update of the apps.

# Blog posts and videos

TODO

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 April 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 experiences on using alerts to be more proactive. Reach out (or blog about your experiences.)

PPS. It is not too late to rate the Power BI apps on Appsource 😊 Your feedback matters (a lot).

Do it here

aka.ms/bctelemetryreport

or

aka.ms/bctelemetry-isv-app