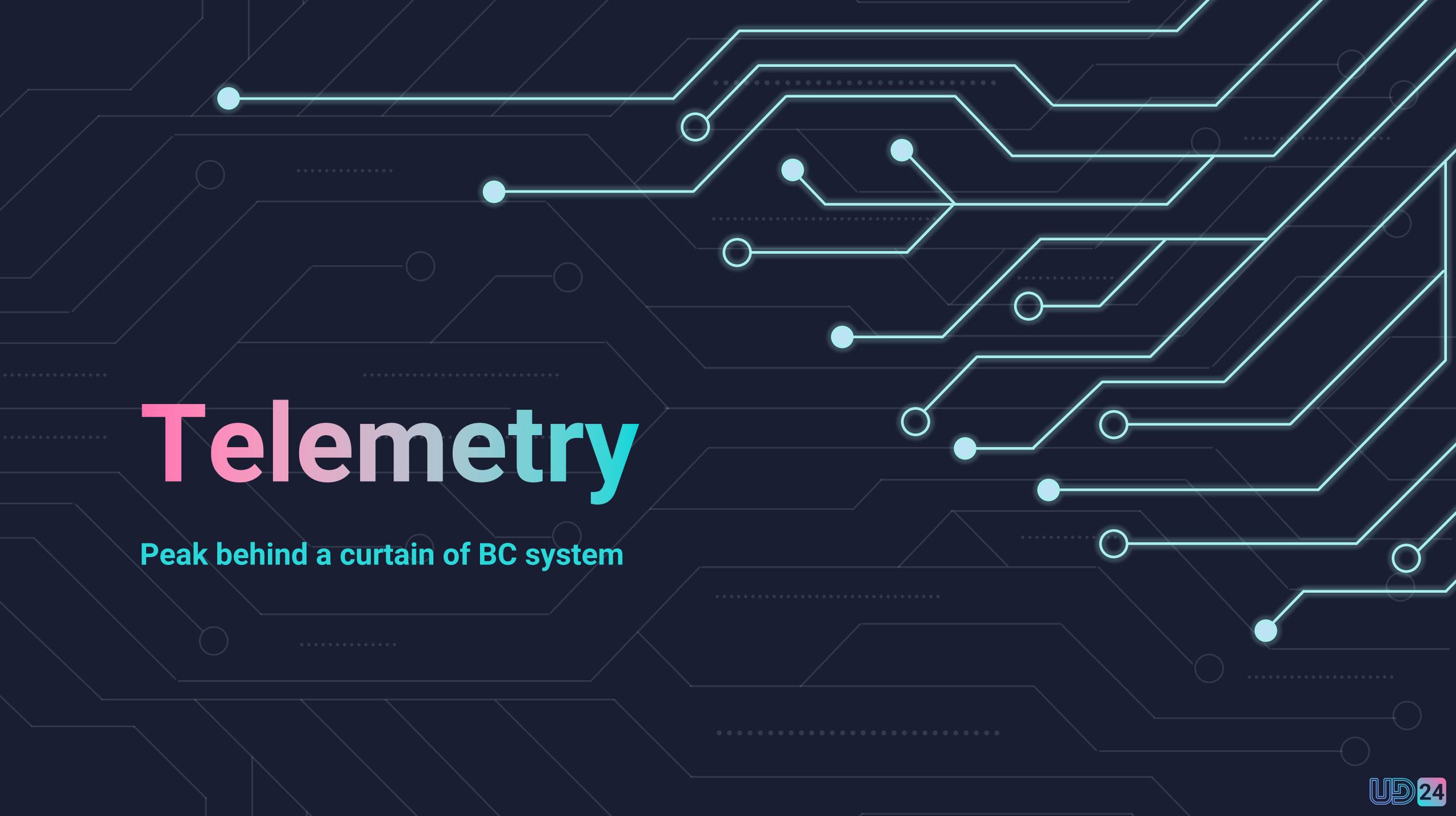


WD

24



# Telemetry

Peak behind a curtain of BC system

# Agenda

01

What is Telemetry

02

Data and PBI Dashboard

03

How TNP uses Telemetry

04

Real Life examples

05

How you can use Telemetry

06

Q&A

# What is Telemetry

- Overview of activities and general health of environments/apps
- It helps to define problems and helps to make better decisions
- Telemetry is not a tool that will solve all your problems
- Not a debugger
- Is GDPR Compliant

# Environment level Telemetry

## BC Environment

Enable Telemetry on Environments that are being monitored

## Telemetry signals

Telemetry sends about 400 signals (on latest BC version) when the action happens

## App Insights

Data is collected in Azure Application Insights and available to be analysed

## Log Analytics Workspace

Technical resource can analyze Telemetry in Log Analytics Workspace using KQL Queries

## Power BI

Telemetry data is presented in MS designed Power BI Dashboard to help visualise the status of the system

# Cost and Limitations

- Ingestion
- Storage

# Data and Power BI

- Data stored in Azure Application Insights
- Query the data with KQL
- Review Data in Power BI dashboards
- On Prem v SaaS

# Data and Power BI

- Usage – Users, Locations, features
- Errors – Permissions, Authentication, JQs
- Performance – SQL Queries, Page Open time
- Administration – Change audit

# Usage



## BC Telemetry Demo

- Usage
- DAU / WAU / MAU**
- Sessions
- Clients
- Locations
- Application Areas
- Page views
- Reports
- Feature usage
- Client actions
- Integrations
- Connectors
- Checklist usage
- Onboarding
- Deprecated features
- About the report
- Errors
- Dashboard

### Daily / Weekly / Monthly Users (also known as DAU / WAU / MAU)

Tenant/Environment/Company

(Blank)

This page shows daily / weekly / monthly users, both historical numbers and the current values (based on when the report dataset was last refreshed).

Note that this is based on the user\_id field in telemetry, so for environments that do not log user telemetry id, these numbers are not accurate. Also, note that there is currently no way from telemetry to know if a user is a paid user.

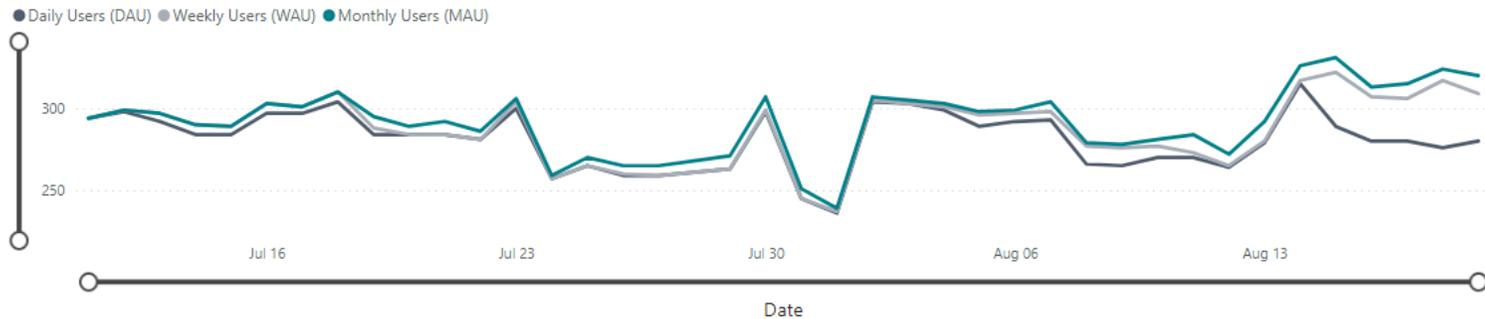
Current DAU/WAU/MAU date

19 Aug 2023

### Current DAU/WAU/MAU by Environment

Domain	AAD Tenant Id	Environment Name	Current Daily Users (DAU)	Current Weekly Users (WAU)	Current Monthly Users (MAU)
	f2ff6e55-5871-4aa7-bb14-687eb9075904	ToDelete-202306021231	1	1	2
	f2ff6e55-5871-4aa7-bb14-687eb9075904	ToDelete-202306011925			
	f2ff6e55-5871-4aa7-bb14-687eb9075904	ToDelete-202306011124			
	f2ff6e55-5871-4aa7-bb14-687eb9075904	ToDelete			
	f2ff6e55-5871-4aa7-bb14-687eb9075904	Test			
	c32415e1-054e-401b-ad32-3cdfa301b1d2	sandbox4			

### DAU / WAU / MAU by date (across all environments)



### Analyze further with KQL

Open in Application Insights (if you have set parameters) KQL Query (if you want to copy it)

// change lookback, limit, ... as needed

### Filters

Search

Filters on all pages

- Date is (All)
- Day Of Week is (All)
- Domain is (All)
- AAD tenant Id is (All)
- Environment name is (All)
- Environment type is (All)
- Environment version is (All)
- Environment version (s... is (All)

# Errors



BC Telemetry Demo

- Usage
- Errors
- Dashboard**
- Login errors
- Error dialogs
- Permission Errors
- Error messages
- Feature Errors
- Environment lifecycle er...
- Company lifecycle errors
- Extension lifecycle errors
- Email errors
- Authentication (web ser...
- Webservice metadata er...
- Incoming webservice er...
- Connector errors
- Outgoing webservice er...
- Azure function errors

## Error dashboard

Tenant/Environment/Company

All

This page shows errors happening for users, integrations with external systems, and setup/system errors.

### User errors

When users gets error dialogs, it can be a symptom of missing knowledge about the system or that some features are not setup the way they are supposed to.

User logins	Error Dialogs	Error message feedback	Permission Errors
12	1276	1	37

### Integrations errors

External systems communicate with BC using web services. Failures in this area means that some of the integrations are probably not working correctly.

Web Service Logins	Web Service Key logins	Connector calls (incoming)	Web service calls (incoming)	Web service calls (outgoing)
160	0	0	379	46

### System errors

Some BC modules or code might be misconfigured. Failures here indicate the the system is not setup correctly.

License Errors	Background Session Logins	Tasks	Job Queue	Environment lifecycle	Company lifecycle	Extension lifecycle	Configuration packages (failed)
15	359	1172	1254	396	0	43	2
Emails	Reports	Database deadlocks	Features				
2	0	34	2				

## Filters

Search

Filters on all pages

- Date is (All)
- Domain is (All)
- AAD Tenant Id is (All)
- Environment Name is (All)
- Environment Type is (All)
- Environment version is (All)
- Environment version (s... is (All)

# Performance



BC Telemetry Demo

- Usage
- Errors
- Performance
- Recommendations
- Performance events
- Sessions
- OnCompanyOpen
- Pageviews
- Reports**
- Long Running SQL Quer...
- Database lock timeouts
- Long Running AL metho...
- Incoming webservice calls
- Outgoing webservice ca...
- Job Queue
- Task Scheduler
- Configuration packages
- App Updates

## Report Performance

Tenant/Environment/Company

All

Reports can use a lot of resources on the database and in the server. Look for

- sum time that shows the tuning potential per report. Sort on this to find candidates for tuning.
- high number of renderings and high avg. durations.
- high SQL statement counts and/or low SQL row/SQL statement ratios (this indicates that the dataset is not very set-based but more row-by-row)
- reports not using read-only
- reports not running in the background (filter on client type). Could they be scheduled?

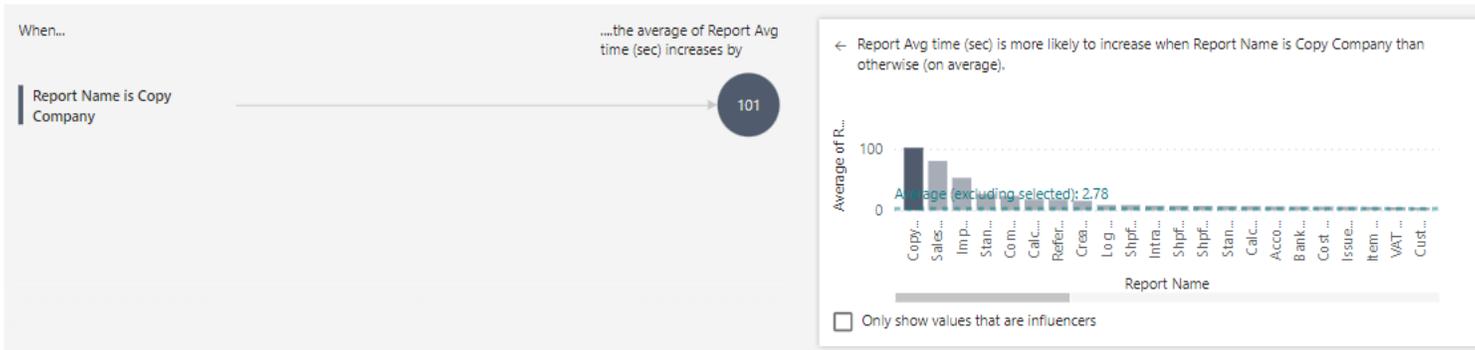
### Summary (for report performance)

Report Name contributed the most to the Increase of Report Avg time (sec). When Report Name was Copy Company, Report Avg time (sec) Increased by 101.03.

### Key influencers (for report performance)

Key influencers Top segments

What influences Report Avg time (sec) to  ?



### Analyze root causes (for report performance)

Version

## Filters

Search

Filters on this page

- App is (All)
- App Id is (All)
- App Publisher is (All)
- App Version is (All)
- Client type is (All)
- Database Access is (All)
- Database Access Intent is (All)
- Date/Time is (All)
- Hour of Day is (All)
- Layout Id is (All)
- Layout Name is (All)
- Layout Type is (All)
- Object (Report) Name is (All)
- Object Id is (All)

# Administration

File Export Chat in Teams Explore this data Get insights Subscribe to report Set alert

BC Telemetry Demo

- Usage
- Errors
- Performance
- Administration
- Inventory
- Update Planning
- All Changes
- Environment Changes**
- Feature Management
- Company Changes
- Extension Changes
- Index Changes
- Field Changes
- Permission Changes
- Retention Policy
- Cloud Migration
- Data in telemetry
- Configuration

## Environment Changes

Tenant/Environment/Company: All

This page shows environment lifecycle events for environments included in telemetry.

### Environment Lifecycle Events

Date/Time	Domain	AAD Tenant ID	Environment	Event
9/8/2023 7:43:03 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:42:24 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:41:47 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:41:11 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:40:33 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:40:04 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:39:24 AM		f7554c8f-d39b-4c49-9bcf-40ad190bc97a	Production	App hotfix applied
9/8/2023 7:10:42 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 7:10:02 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 7:09:25 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 7:08:48 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 7:08:05 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 7:07:43 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 7:06:58 AM		8d5dbaf8-7086-4e65-8aef-5210a080a0a9	Production	App hotfix applied
9/8/2023 6:45:13 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:44:39 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:44:06 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:43:35 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:43:03 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:42:41 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:42:07 AM		6a5868b8-2222-47e2-a518-7c9fc4883aec	Sandbox	App hotfix applied
9/8/2023 6:18:08 AM		e48dcd7a-a2e2-4a5c-9044-b548f75ab03d	Sandbox	App hotfix applied
9/8/2023 6:17:33 AM		e48dcd7a-a2e2-4a5c-9044-b548f75ab03d	Sandbox	App hotfix applied
9/8/2023 6:17:00 AM		e48dcd7a-a2e2-4a5c-9044-b548f75ab03d	Sandbox	App hotfix applied
9/8/2023 6:16:29 AM		e48dcd7a-a2e2-4a5c-9044-b548f75ab03d	Sandbox	App hotfix applied

### Lifecycle events by type

Event: App hotfix ap... Configurati... Copied Deleted (... Deleted (p...

### Lifecycle events over time

Event: App hotfix ... Configur... Copied Deleted (... Deleted (...

### Filters

Search

Filters on this page

- Date/Time is (All)
- Event is (All)
- Hour of Day is (All)

Filters on all pages

- Date is (All)
- AAD tenant ID is (All)
- Environment localization is (All)
- Environment name is (All)
- Environment type is (All)
- Environment version is (All)
- Environment version (sh... is (All)

### Analyze further with KQL

Open in Application Insights (if you have set parameters)

```

KQL Query (if you want to copy it)
// change lookback, limit, ... as needed
// EnvironmentLifecycle
traces
| where timestamp >= ago(90d) // adjust as needed. The value 90 comes from the app configuration

```



# Telemetry in Numbers

**225 Customers with Telemetry enabled**  
**400 Signals available**

# TNP and Telemetry

Evergreen

Projects

Performance

Support

Product Development



# Alerts

- Power BI metrics (if you use the Power BI app on telemetry data)
- Azure Application Insights Alerts
- Azure Logic Apps
- Power Automate

Environment failed to update - Production2 to version 23.2.14098.14274

 Robbie Goff  
To: Pavel Moravek



Tue 30/01/2024 08:01

### Modify your extension so it's compatible with the version 23.2.14098.14274

We're making changes in the next release (version 23.2.14098.14274) of Dynamics 365 Business Central. These changes will render the LookoutPoint extension that's installed in your Production (Production) environment incompatible. This incompatibility must be resolved before your environment can be updated to version 23.2.14098.14274. You can find the compatibility error details and mitigation steps here.

Extension name:  
Extension version: 2.0.3.0  
Extension publisher: The NAV People  
Extension ID: c90caa51-cb11-41a6-9c38-5793a557c234

Extension validation result:  
["src/codeunit/LPPurchaseInvoice%20[50103].al (115,37) - Error AL0132: 'Codeunit Microsoft.Finance.Dimension.DimensionManagement' does not contain a definition for 'TypeToTableID3'"]

#### Fix the extension error

1. Review breaking changes introduced in version 23.2.14098.14274 and how to resolve them.
2. Make the required changes to the incompatible extension(s), compile the extension against version 23.2.14098.14274, and perform the necessary tests to verify that the functionality is correct.
3. Upload the fixed extension(s) using the Extension Management page in Dynamics 365 Business Central and select the appropriate version for which the updated extension is compatible.

#### Uninstall the extension

1. Navigate to the Extension Management page in Dynamics 365 Business Central and uninstall the incompatible extension(s).



# How can you use Telemetry

**Usage – no. of active users**

**Audit trail for changes**

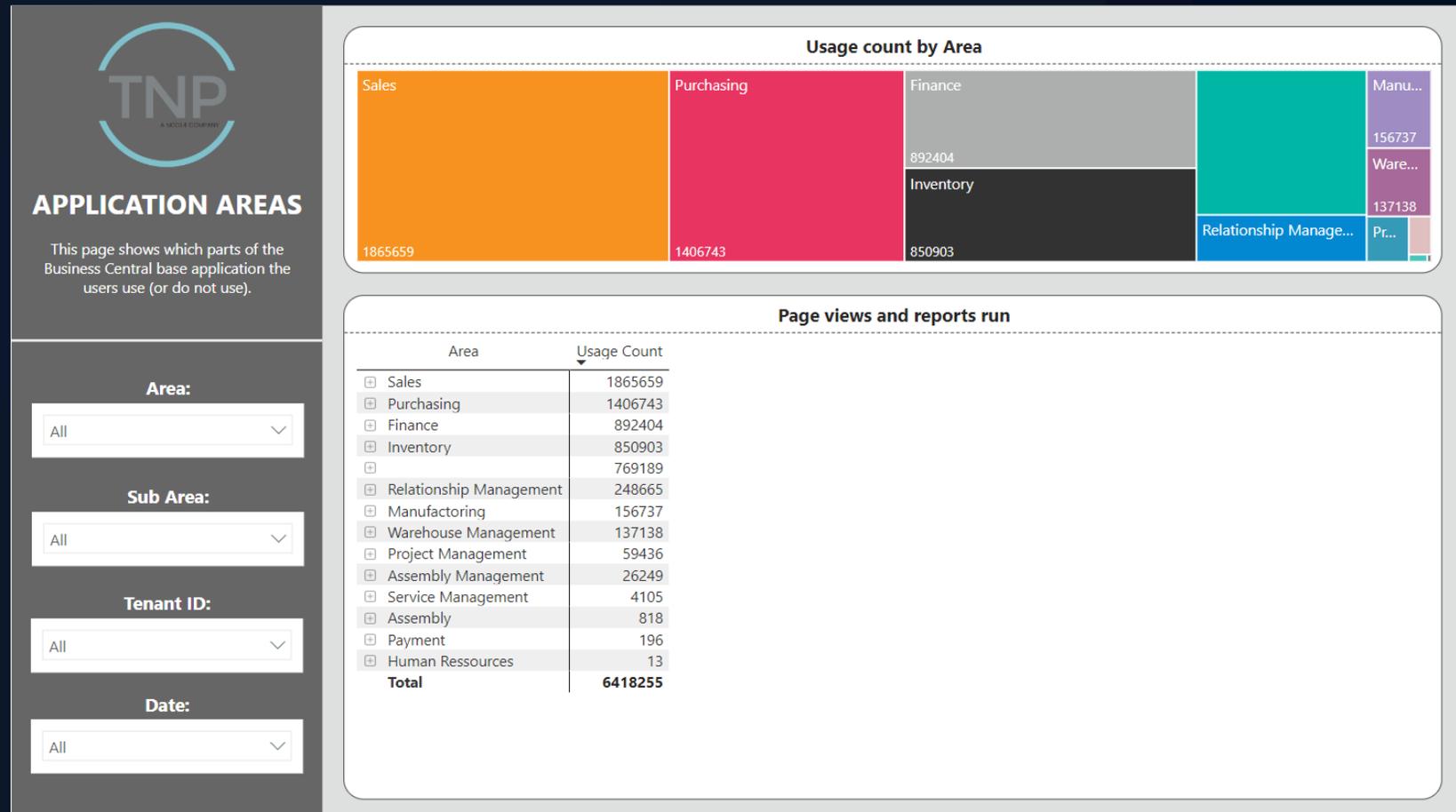
**Planned upgrade**

**Usage of areas**

# TNP Telemetry Dashboard

Allow Customers to  
view their Telemetry

Structured and  
simplified



**Thank You.**