

IBM Cloud Pak for Business Automation

Demos and Labs

Operational Intelligence

IBM Business Automation Insights

Build Business Performance Center Dashboard

Lab version: 1.11 (for CP4BA 24.0.0 iFix 001 and up)

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1 Lab Introduction

In the lab, you will learn how to build and use the Business Performance Center to create dashboards and provide insights into a Client Onboarding solution for a line of business users.

1.1 Introduction to IBM Business Automation Insights

IBM Business Automation Insights (BAI) processes event data from the connected IBM Business Automation products so that you can derive insights into the performance of your business. You can use this data to drive automation and visualize the state of the KPIs in dashboards that matter most to the line of business in near real-time.

See a high-level BAI architecture in the figure below. Additional technical information is available in the Appendix of this lab guide.

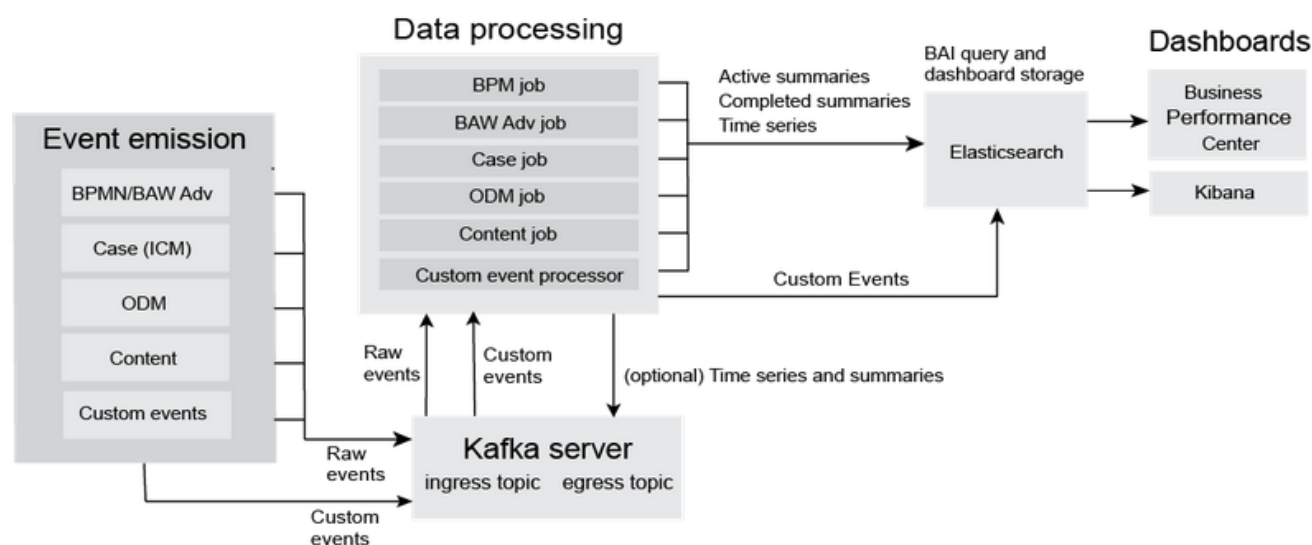


Figure 1. IBM Business Automation Insights Architecture

Business Performance Center (BPC), shown in Figure 1 above, is the no-code business monitoring application native to IBM Cloud Pak for Business Automation. Using BPC business users (with no IT assistance) can:

- Design and share dashboards in minutes that capture business data in near real-time and provide awareness of essential business activities and processes.
- Prepare, track, and design visualizations of metrics, key performance indicators (KPIs), and other business performance measurements in customizable dashboards.

1.2 Lab Overview

The solution used during the labs is the *Client Onboarding* workflow automation implemented as a Case with several BPMN processes implementing case activities. The automation contains a single Case Type *Client Onboarding Request*, which includes activities that need to be performed, data, documents, and conditions that drive the processing.

Automations / Client Onboarding / Case Type

Client Onboarding Request

Case Type Properties Views Case Folders Stages Rules **Activities**

All activities ⓘ 🔒

Required activities

- Initialize Request**
File selected documents to the Case folder and handle pending
Precondition: Case Start
Set: <None>
- Notification**
Notify the client and client rep that the review has been
Precondition: Stage started: Notification
Set: <None>
- Perform Scoreboarding**
Scoreboard the client (Classifies them into a segment and assess
Precondition: Stage started: Scoreboarding
Set: <None>
- Update Backend Systems**
Update backend systems with client information
Precondition: Stage started: Backend Systems Up...
Set: <None>

Optional activities

- Review Client Documents**
Renew any new documents coming in from the client
Precondition: Documents: Any document
Property ...
Set: <None>

BPMN processes (shown below) implement all five Case Activities above in an automatically generated Process App (Client Onboarding).

IBM Automation

Business automations /

Client Onboarding

Process App Settings (Read-only)

Client Onboarding

Processes

User interface

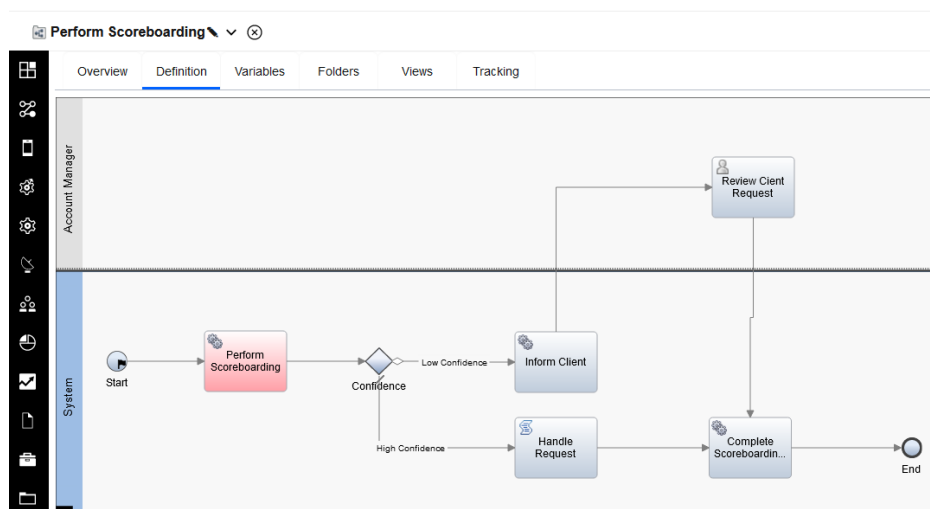
Exposed Automation Services

Type Processes

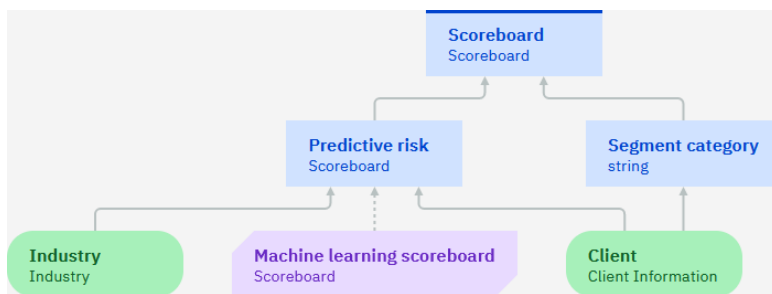
Process 6

- Initialize Request
- New Client Onboarding Request
- Notification
- Perform Scoreboarding
- Review Client Documents
- Update Backend Systems

The *Perform Scoreboarding* Activity (highlighted red below) is particularly interesting. It uses Automation Services to invoke Scoreboard decisions implemented using Automation Decision Services (ADS).



The Scoreboard ADS decision determines if a client is risky using a Machine Learning-based predictive model and classifies the client into a segment.



When authoring one of the Charts on the Dashboard, you will use data generated by the above decision.

1.3 Lab Setup Instructions

If you are performing this lab as part of an IBM event, access the document that lists the available systems, URLs, and login instructions. You will need to access the IBM Business Performance Center for this lab.

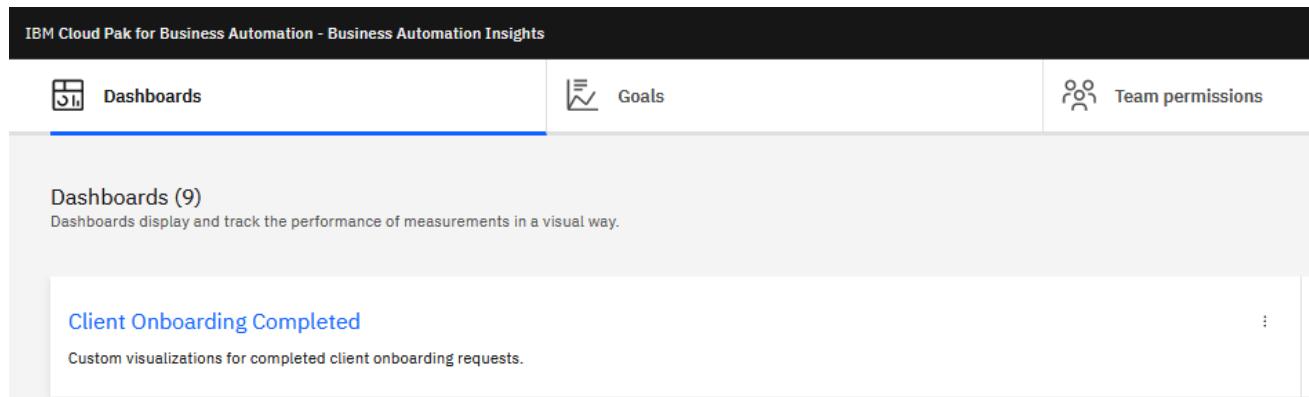
- _1. Paste the **Business Performance Center** URL to your web browser.
- _2. For *Log in with*, select **Enterprise LDAP**, enter the *Username* and *Password* supplied to you and then click **Log in**.

2 Exercise: Create a Client Onboarding Workflow Dashboard

2.1 Introduction

In this lab exercise, you will use BPC to create a business dashboard to enable a business user to get near real-time business insight into the *Client Onboarding* workflow.

In addition to built-in dashboards delivered with BPC that provide you with many great generic charts for workflow, decisions, and content, a reference version of the Dashboard specific to the Client Onboarding business metrics and KPIs that you will build in the lab exercise (called **Client Onboarding Completed**) has already been created for you.



If you like, you can refer to it when building your dashboard version.

Note that BAI events were already generated for you. But, since you are using a live shared environment with you and other users working on Client Onboarding cases, you may see new events arriving as you author your Dashboard. Consequently, some screenshots in the lab instructions may not look the same as your environment.

2.2 Exercise Instructions

In this lab exercise, you will author and configure the following BPC artifacts:

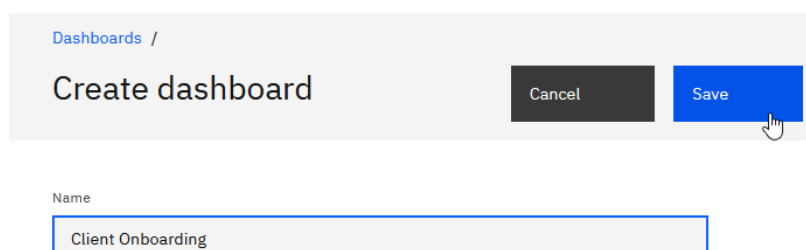
- Client Onboarding **Dashboard**
- **Charts** used in the Client Onboarding dashboard
- A chart **Alert**
- A **Goal** to aggregate related charts

2.2.1 Create a Dashboard

_1. Click **Create +**



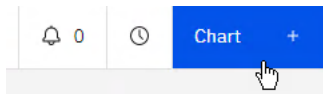
_2. For *Name*, enter **Client Onboarding** and click **Save**.



2.2.2 Create "Average Revenue from Service Fees for Approved Clients" Chart

This gauge chart will show the average revenue from service fees for approved clients.

_1. Click **chart +**



Enter the following and then click **Create**

Item	Value
Name	Average Revenue from Service Fees for Approved Clients
Select measurement	KPI

Client Onboarding ×

Create chart

Name

Average Revenue from Service Fees for Approved Clients

Description (optional)

Select measurement

Metric

90%

A performance indicator based on data items, constants, and other metrics that helps you

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

Cancel

Create

2.2.2.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding ▼

This will select events from the Client Onboarding workflow.

_2. In *Aggregation*, for *Function*, select **Average**, and *Data item*, choose **CO_ServicesFee (data) – (long)**

Aggregation

Function

Average ▼

Data item

CO_ServicesFee (data) - (long) ▼

If you wonder where this Case property comes from, read the explanation below.

The CO prefix in CO_ServicesFee is the Client Onboarding Solution prefix.

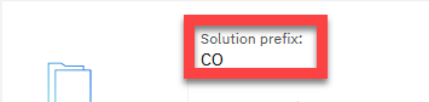
Client Onboarding

Overview

Properties

Roles

In-baskets



ServicesFee in CO_ServicesFee is the name of the Client Onboarding case property.

Client Onboarding

Overview

Properties

Roles

In-baskets

Documents

Business Objects

Pages

Case Types

Property Definitions ⓘ

OK All ✓

Manage Choice Lists 📄

Services Fee

Integer



Fee being chaged for the services requested

Services Requested

String



The services requested by the client

For the BAI Case Emitter to add this property to the emitted events, the Client Onboarding Audit Configuration includes this property.

IBM Business Automation Workflow Case administration

Solutions ×

Manage Audit Configuration ×

Back

Next

Save

Apply

Cancel

Add properties to audit

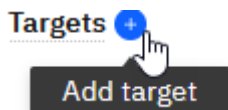
Add

Remove

Object Type	Object Name	Property Name	Property Symbolic Name
Case	Client Onboarding Request	Services Fee	CO_ServicesFee
Case	Client Onboarding Request	Services Requested	CO_ServicesRequested

Let's continue with the lab instructions.

_3. Click **Targets +**



_4. For *Label*, enter **Target**, and for *Value*, enter **80000**

Targets

Label

Value

Target

80,000

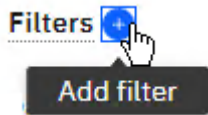
2.2.2.2 Define Filter Data

When selecting the Monitoring source, you specified **Workflow (Case) – Client Onboarding**. This setting allows you to work with the instances of the Client Onboarding workflow. Filters allow you to select specific data you want to display in your chart.

_1. Select the **Filters** tab.



_2. Click the **Filter +** button.



_3. Select the following values from the dropdown list:

Item	Value
Data item	CO_ApprovalStatus (data) – (keyword)
Operator	=
Value	Approved

Your Filter setting should look exactly like this:

Data item	Operator	Value
CO_ApprovalStatus (data) - (keyword) ▼	= ▼	Approved

2.2.2.3 Define Visualization

This setting allows you to customize your Chart display settings.

_1. Select the **Visualization** tab.



_2. Enter the following values:

Item	Value
Min	0
Max	100,000
Unit	\$

Your Gauge setting should look exactly like this:

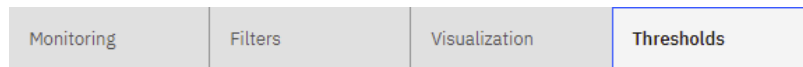
Gauge settings

Min	Max
0	100,000
Unit	
\$	

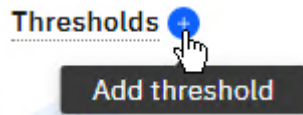
2.2.2.4 Define Thresholds

This setting allows you to customize the Gauge threshold setting.

_1. Select the **Thresholds** tab.



_2. Click the **Thresholds +** button **two times**.



_3. For each Group, enter the following values:

s	Data item	Value
1	Threshold name	Below
	End	30000
	Range name 1	Poor
	Range name 2	Average
2	Threshold name	Above
	End	80000
	Range name 3	Excellent

Your Thresholds setting should look exactly like this:

Thresholds +

Threshold name	Value	Range name	Start	End	
Below	30,000	Poor	min	30,000	
		Average	30,000	80,000	
Above	80,000	Excellent	80,000	max	

_4. Click the color patch next to 30,000 and then select the **Red** color patch from the palette.

Start	End	
min	30,000	
30,000	80,000	
80,000	max	

Custom

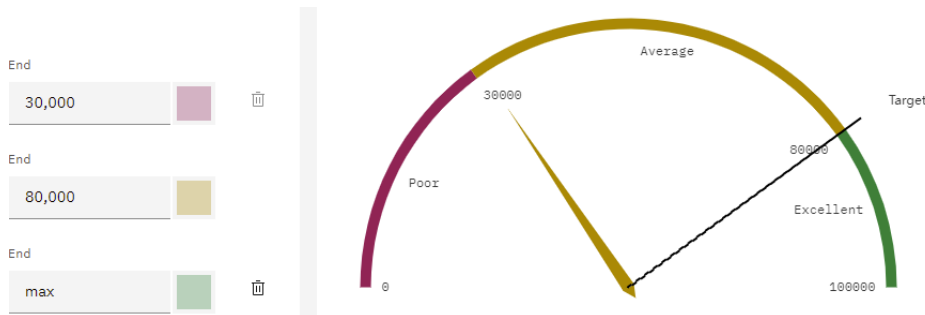
#6929c4

A bug may keep the color picker window open with now way to close it. This will be fixed in a later version. If you experience this, click Done, and then reopen the chart, navigate back to the Thresholds tab to perform the remaining steps.

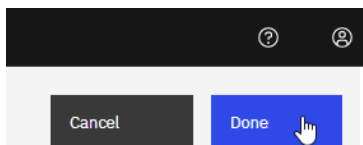
_5. Using the above steps, customize the other two colors.

Item	Value
80,000	Yellow
max	Green

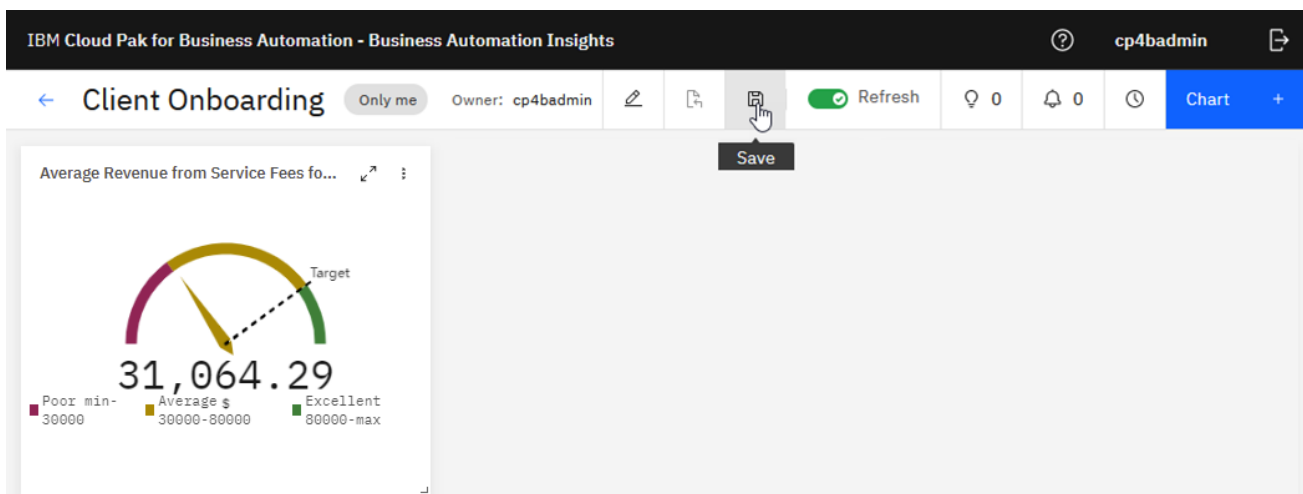
The color settings should look exactly like this:



_6. Click **Done**



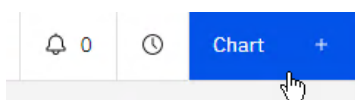
_7. Click the **Save icon** on the toolbar above the Dashboard to save your work!



2.2.3 Create "Approvals by Industry" Chart

This hierarchical pie chart will show the state of each industry's approvals (Approved, Rejected, Under Review).

_1. Click **Chart +**



_2. Enter the following and then click **Create**

Item	Value
Name	Approvals by Industry
Select measurement	Metric

Client Onboarding ×

Create chart

Name

Approvals by Industry

Description (optional)

Select measurement

Metric

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

Cancel Create

2.2.3.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding ▼

_2. Click the **Group by +** button **twice**.

Group by

_3. Enter the following values for the *Group by* entries:

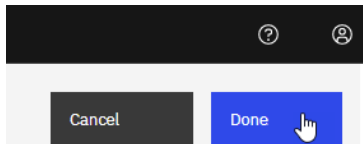
Item	Value
1	CO_ApprovalStatus (data) – (keyword)
2	CO_Industry (data) – (keyword)

Group by

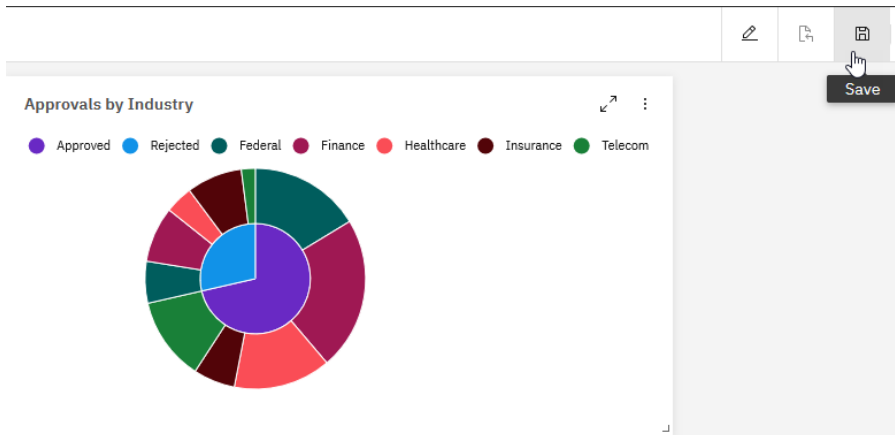
CO_ApprovalStatus (data) - (keyword) ▼

CO_Industry (data) - (keyword) ▼

_4. Click **Done**



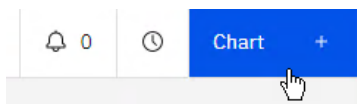
_5. Click the **Save** icon on the toolbar above the Dashboard to save your work!



2.2.4 Create "Services Subscription by Industry with Drilldowns" Chart

This pie chart will show the service subscriptions by industry. Another feature of this chart is drilling down by service > industry > country.

_1. Click **Chart +**



_2. Enter the following and then click **Create**.

Item	Value
Name	Services Subscription by Industry with Drilldowns
Select measurement	Drill-down

_3. Enter the following and then click **Create**.

Item	Value
Name	Industry
Select measurement	Metric

Client Onboarding

×

Add a layer

Name

Industry

Description (optional)

Select measurement

Metric

90%

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

Data

A set of data items presented in a table.

Cancel

Create

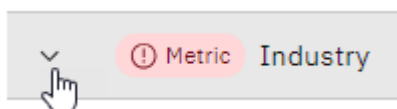
_4. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_5. Click the **dropdown** on the Industry layer.



_6. Click **Group by +**



_7. For Group by select **CO_Industry**

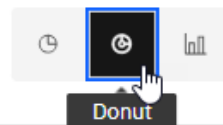
Group by

CO_Industry (data) - (keyword)

_8. For the Drill-down chart type, select **Donut**.

Drill-down

Layer 1 - Industry
Donut



_9. Click **Add a layer**.

Business goal

No goal



Drill-down layers

Add a layer



_10. Enter the following and then click **Create**.

Item	Value
Name	Services Requested
Select measurement	Metric

Client Onboarding

×

Add a layer

Name

Services Requested

Description (optional)

Select measurement

Metric

90%

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI

A representation of KPI values measured over time so that you can spot historical trends.

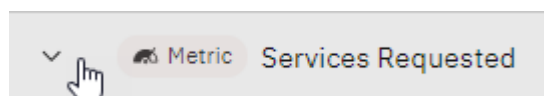
Data

A set of data items presented in a table.

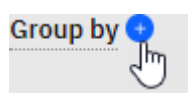
Cancel

Create


_11. Click the **dropdown** on the Service Requested layer.




_12. **Group by +**

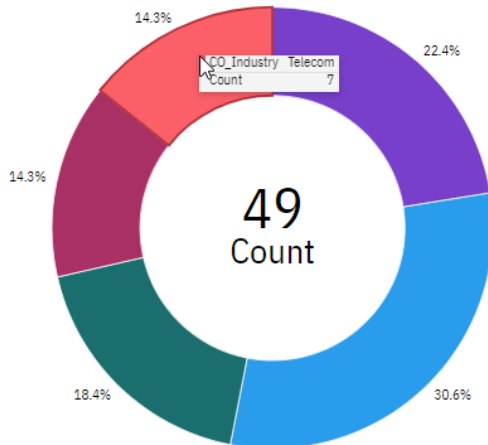


_13. For Group by select **CO_ServicesRequested**

Group by 

CO_ServicesRequested (data) - (keyword) 

_14. On the Donut, click any wedge to unlock the second data layer.



_15. For the Drill-down chart type, select **Donut**.

Drill-down

Layer 2 - Services Requested
Donut



_16. Click **Add a layer**.

Business goal

No goal 

Drill-down layers

Add a layer



_17. Enter the following and then click **Create**.

Item	Value
Name	Country
Select measurement	Metric

Client Onboarding

×

Add a layer

Name

Country ✓

Description (optional)

Select measurement

Metric ✓

90%

A performance indicator based on data items, constants, and other metrics that helps you monitor your business activities.

Period metric ▲

A representation of metric values measured over time.

KPI

A type of metric that shows the degree to which business objectives are on track.

Period KPI ▲

A representation of KPI values measured over time so that you can spot historical trends.

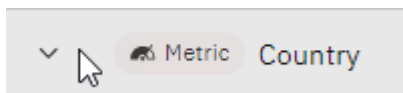
Data ▲

A set of data items presented in a table.

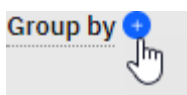
Cancel

Create ✓

_18. Click the **dropdown** on the Country layer.



_19. **Group by +**

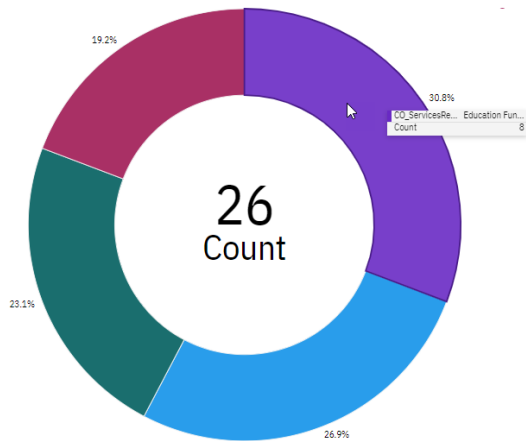


_20. For Group by select **CO_AddressCountry**

Group by +

CO_AddressCountry (data) - (keyword) ▼

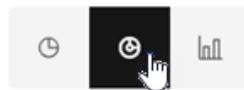
_21. On the Donut, click any wedge to unlock the second data layer.



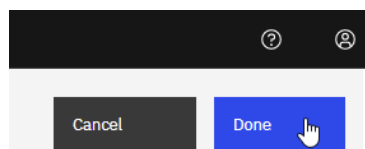
_22. For the Drill-down chart type, select **Donut**.

Drill-down

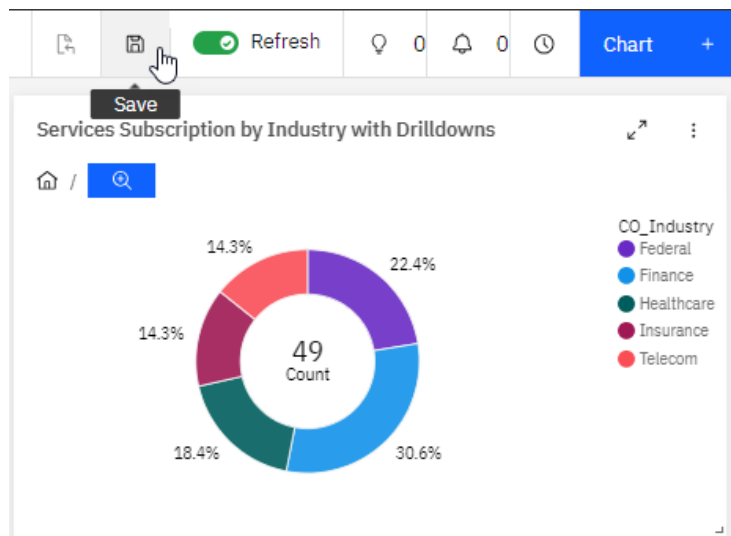
Layer 3 - Country
Donut



_23. Click **Done**.

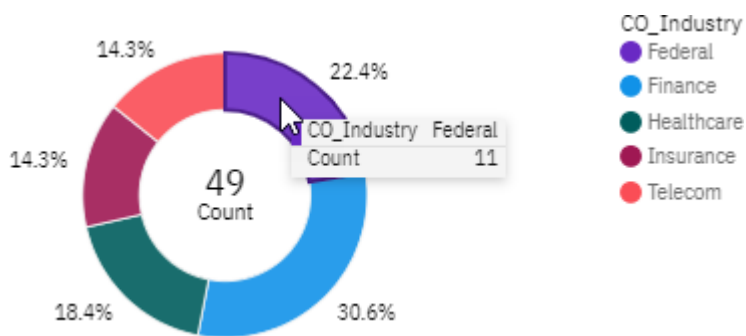


_24. Click the **Save** icon on the toolbar above the Dashboard to save your work!

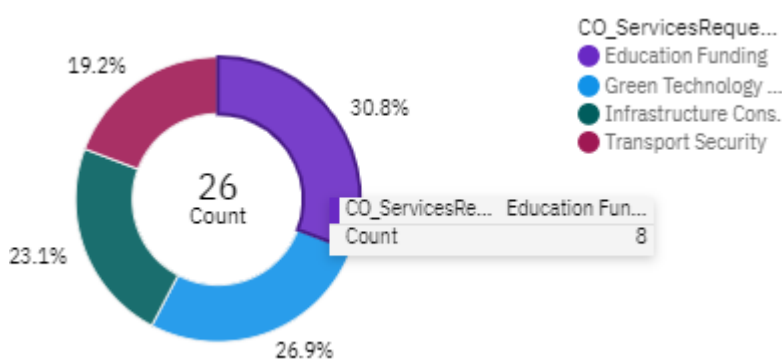


2.2.4.1 Explore Drill-down capability

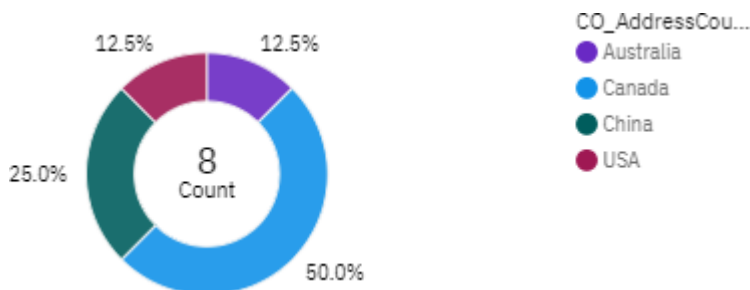
_1. Select the first drill-down level by clicking on **Federal** Industry (the color may be different for you).



_2. Select the second drill-down level by clicking on **Education Funding** Service.



_3. You should now see all the countries for *Federal > Education Funding*.



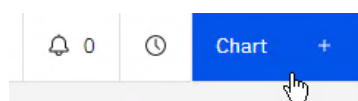
_4. Click **Home** to get back to the original view.



2.2.5 Create "Highest Service Fee by Industry Sector" Chart

This bar chart will show the highest service fee by industry sector.

_1. Click **chart +**



_2. Enter the following and then click **Create**.

Item	Value
Name	Highest Service Fee by Industry Sector
Select measurement	Metric

2.2.5.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. In *Aggregation*, for *Function*, select **Max**, and for *Data item*, select **CO_ServicesFee(data) – (long)**

Aggregation

Function

Max

Data item

CO_ServicesFee (data) - (long)

_3. Click **Group by +** button.

Group by

_4. Enter **CO_Industry (data) – (keyword)**

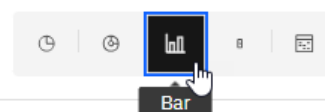
Group by

CO_Industry (data) - (keyword)

_5. For chart type, select **Bar**

Metric

Bar



2.2.5.2 Define Visualization Information

_1. Click **Visualization** tab

Monitoring Filters Visualization Thresholds

_1. For *Bar settings*, enter:

Item	Value
X axis label	Industry
Y axis label	Maximum Service Fee [\$]

Bar settings

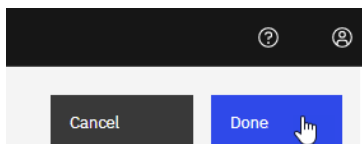
X axis label

Industry

Y axis label

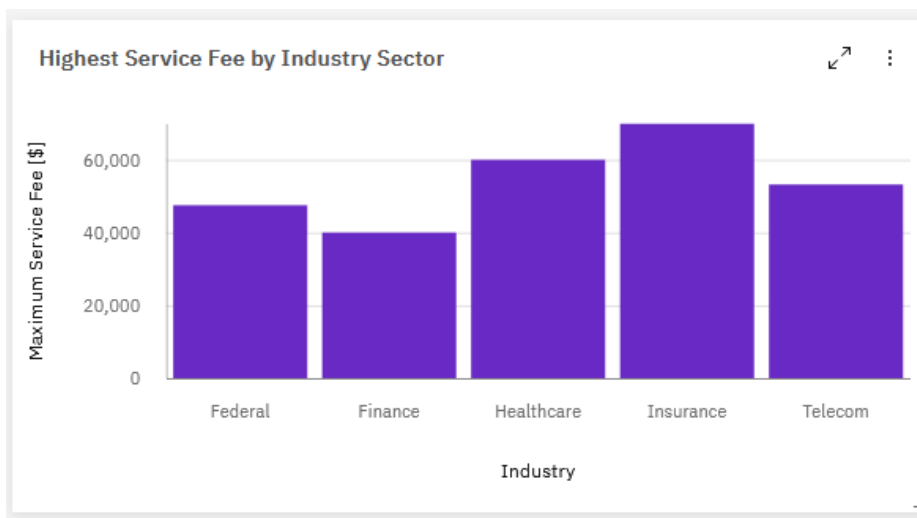
Maximum Service Fee [\$]

_2. Click **Done**



_3. Click the **Save** icon on the toolbar above the Dashboard to save your work!

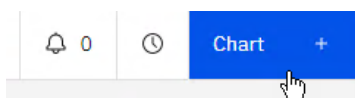
Your chart should look similar to this (the order of the industries may be different for you):



2.2.6 Create "Approval Count of High-Risk Cases" Chart

This bar chart will show the approval counts for high-risk cases in a given period. High-risk cases are identified by the decision service (which uses a Machine Learning (ML) service to score risk level). This is an essential metric, indicating that the approver overrode the ML model decision. Therefore, the ML model may be inaccurate and need re-training.

_1. Click **Chart +**



_2. Enter the following and then click **Create**.

Item	Value
Name	Approval Count of High-Risk Cases
Select measurement	Period metric

2.2.6.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding.

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding ▼

_2. On *Interval*, change the setting to **Minutes(s)**

Interval

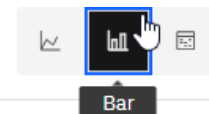
Time interval

Custom ▼ Every 1 Minute(s) ▼

_3. For chart type, select **Bar**

Period metric

Bar

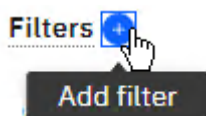


2.2.6.2 Define Filters and Predictions

_1. Select the **Filters and predictions** tab.

Monitoring **Filters and predictions** Visualization Thresholds


_2. Click the **Filter +** button **twice** to add two filters.




_3. For each Group, select the following values from the dropdown list:

Group	Data item	Operator	Value
1	CO_HighRisk (data) – (boolean)	Is true	N/A
2	CO_ApprovalStatus (data) – (keyword)	=	Approved


Your Filters setting should look exactly like this:

Filters 

Data item


CO_HighRisk (data) - (boolean) 

Operator


is true 

AND

Data item

CO_ApprovalStatus (data) - (keyword) 

Operator

= 

Value

Approved

2.2.6.3 Define Visualization Information

_1. Click **Visualization** tab

Monitoring

Filters and predictions

Visualization

Thresholds

_2. For *Bar settings*, enter:

Item	Value
X axis label	Date
Y axis label	Approvals

Trend settings



X axis label

Date


Y axis label

Approvals

_3. Click **Done**

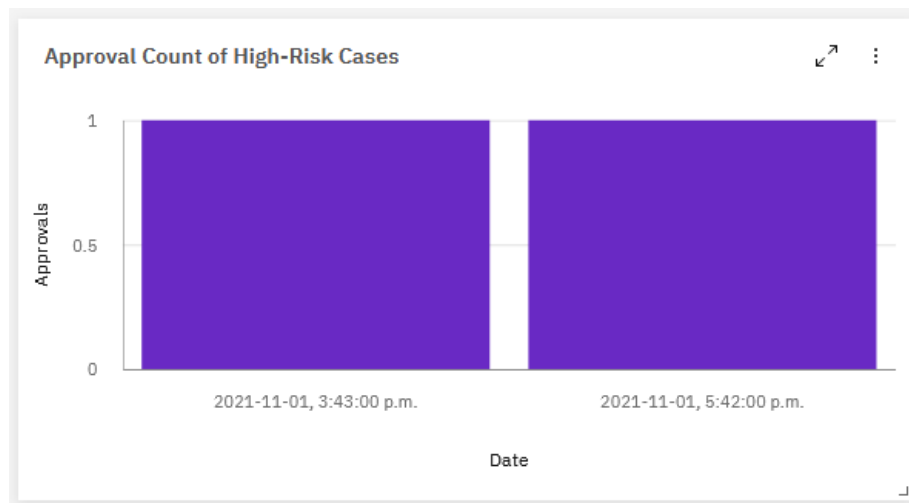



Cancel

Done 

_4. Click the **Save** icon on the toolbar above the Dashboard to save your work!

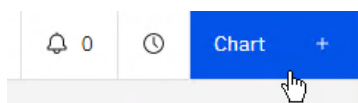
Your chart should look similar to this.



2.2.7 Create "Average Approval Confidence by Industry Sector and Revenue" Chart

You will now create a bubble chart. The bubble color will indicate the industry. The bubble size will indicate how many cases were under a given industry. The bubbles will be positioned in a grid with an X-axis as the average revenue and a Y-axis as the average approval confidence level.

_1. Click **Chart +**



_2. Enter the following and then click **Create**.

Item	Value
Name	Average Approval Confidence by Industry Sector and Revenue
Select measurement	Metric

2.2.7.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. Click the **Aggregation +** button **twice** to add two aggregations.



Note that two Aggregations were added below the Count.

Function	Data item
Count	Select a data item
	<input type="checkbox"/> Set duration display format
Sum	CO_AnnualRevenue (data) - (long)
	<input type="checkbox"/> Set duration display format
Sum	CO_CompanyAge (data) - (long)
	<input type="checkbox"/> Set duration display format

_3. For the two new aggregations, select the following values from the dropdown list:

Aggregation	Function	Data item
2	Average	CO_AnnualRevenue (data) – (long)
3	Average	CO_RiskConfidence (data) – (float)

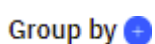
_4. Use the **Down Arrow** on the Count aggregation to move it to the bottom (make it the last Aggregation).

Function	Data item	
Count	Select a data item	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>

Your aggregations setting should look exactly like this:

Function	Data item	
Average	CO_AnnualRevenue (data) - (long)	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>
	<input type="checkbox"/> Set duration display format	
Average	CO_RiskConfidence (data) - (float)	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>
	<input type="checkbox"/> Set duration display format	
Count	Select a data item	<input type="button" value="↑"/> <input type="button" value="↓"/> <input type="button" value="🗑️"/>

_5. Click the **Group by +** button.



_6. Select **CO_Industry (data) – (keyword)**

CO_Industry (data) - (keyword)	▼
--------------------------------	---

_7. Click the **Bubble** icon to change the visualization.

Metric

Table

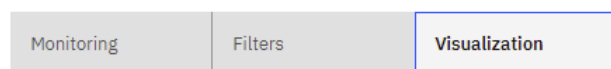


Bubble

CO_Industry	Count	CO_AnnualRevenue (Average)	CO_RiskConfidence (Average)
Federal	11	10,155,205.818	95.589
Finance	15	14,256,276.333	99.29

2.2.7.2 Define Visualization Information

_1. Click **Visualization** tab



_2. For Bubble settings, enter:

Item	Value
X axis label	Average Company Revenue
Y axis label	Average Approval Confidence Level

Bubble settings

X axis label

Average Company Revenue

Y axis label

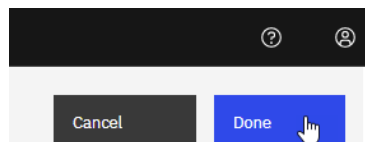
Average Approval Confidence Level

_3. For *Title* enter **Industry**.

Title

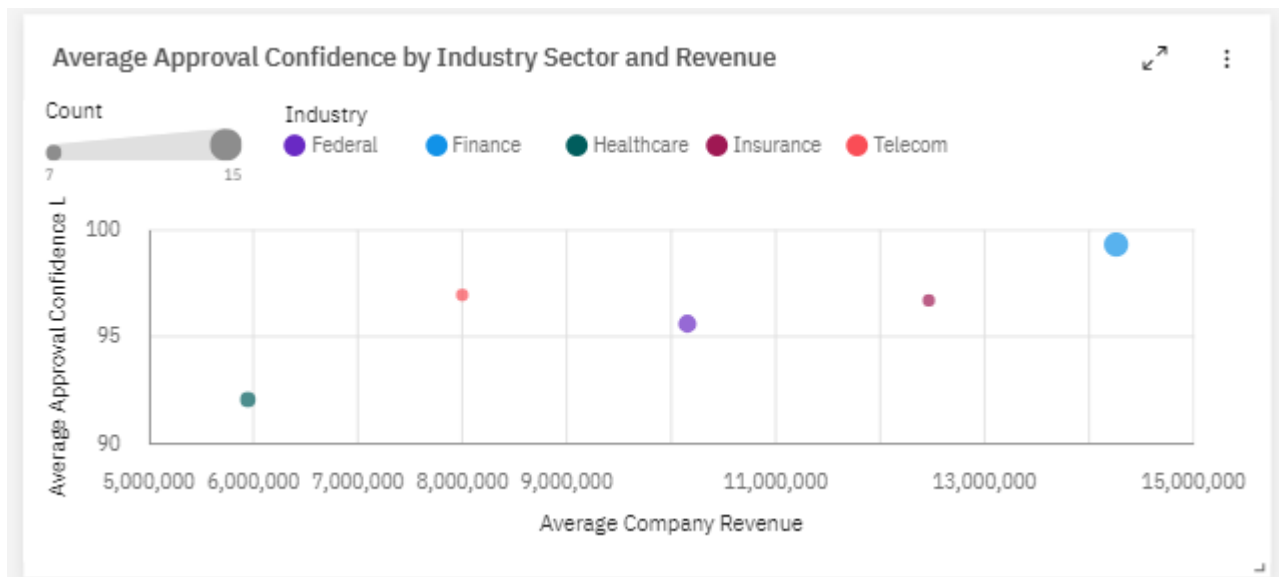
Industry

_4. Click **Done**



_5. On the toolbar about the Dashboard, click the **Save** icon to save your work!

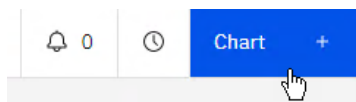
Your chart should look similar to this.



2.2.8 Create "Activity Duration Distribution in Case Completion" Chart

This doughnut chart will show the average time distribution among all activities required to complete a case.

_1. Click **Chart +**



_2. Enter the following and then click **Create**.

Item	Value
Name	Activity Duration Distribution in Case Completion
Select measurement	Metric

2.2.8.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. Change the Aggregation values by setting *Function* to **Average** and *Data item* to **duration-seconds – (long)**

Aggregation

Function

Average

Data item

duration-seconds - (long)

_3. Select **Set duration display format**.

Function	Data item
Average	duration-seconds - (long)

☒ Set duration display format

A bug may keep the field disabled. This will be fixed in a later version. In case you experience please skip this and the next step.

_4. For the *Output (display) unit*, select **Minute**.

☒ Set duration display format

Input (source) unit	Output (display) unit
Second	Minute

_5. Click **Group by +** button

Group by +

_6. Select **task-name – (keyword)**

Group by +

task-name - (keyword)	▼
-----------------------	---

_7. Set visualization type to **Donut**.

Metric

Donut



2.2.8.2 Define Visualization Information

_1. Click **Visualization** tab

Monitoring	Filters and predictions	Visualization	Thresholds
------------	-------------------------	---------------	------------

_2. For *Donut settings*, set *Unit* to **Activity** and *Inner label* to **Average Case Duration**.

Donut settings

Unit

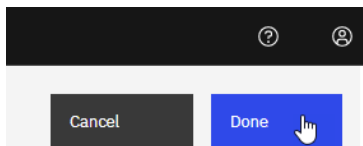
Activity

☒ Display inner label

Inner label

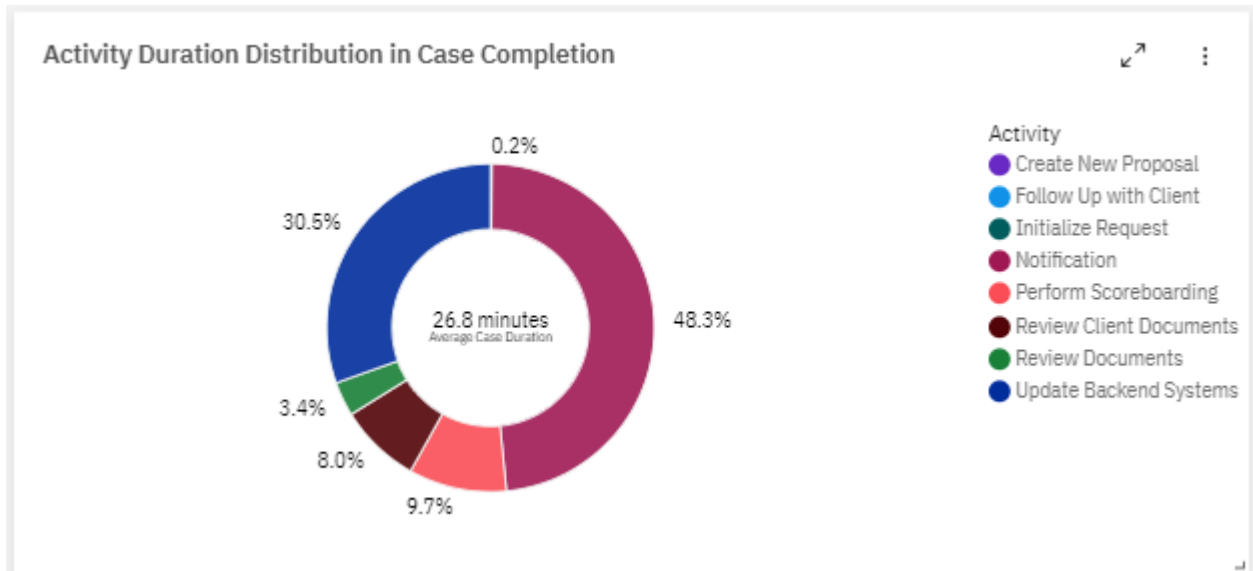
Average Case Duration

_3. Click **Done**



_4. Click the **Save** icon on the toolbar above the Dashboard to save your work!

Your chart should look similar to this.



2.2.9 Create "Completed Cases per Day" Chart

This bar chart will show the number of cases completed in a time period.

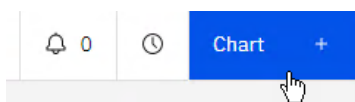
Note that the title states "per Day," but given the data set used for this lab, the scale is "per Minute."

This chart will also include two advanced features:

- **Predictions** – predicts the number of cases completed in the future using one of the below algorithms. This is a very valuable tool to enable capacity human resources planning.
- **Alerts** – provide visual indications when the number of cases completed falls below 2 in a given time period.

Note that depending on the data, KPI Predictions use one of the following algorithms: ARIMA, Seasonal ARIMA, or Exponential Smoothing.

_1. Click **Chart +**



_2. Enter the following and then click **Create**.

Item	Value
Name	Completed Cases per Day
Select measurement	Period KPI

2.2.9.1 Define Monitoring Information

_1. For *Monitoring source*, select **Workflow (Case) – Client Onboarding**

Monitoring context

Monitoring source

Workflow (Case) - Client Onboarding

_2. On *Interval*, change the setting to **Minutes(s)****Interval**

Time interval

Custom

Every 1

Minute(s)

_3. Click **Targets +** button**Targets**

Add target

_4. For *Label*, enter **Target**, and for *Value*, enter **3**

Targets +

Label

Target

Value

3

_5. For visualization, select **Bar**.**Period KPI**

Bar

**2.2.9.2 Define Filters**_1. Select the **Filters and predictions** tab

Monitoring

Filters and predictions

Visualization

Thresholds

_2. Click the **Filter +** button **twice** to add two filters.**Filters**



Add filter

_3. Select the following values for each Filter:



Filter	Data item	Operator	Value
1	type – (keyword)	=	case
2	state – (keyword)	=	Complete

Your Filter setting should look exactly like this:

Filters

Data item	Operator	Value
type - (keyword) 	= 	case

AND

Data item	Operator	Value
state - (keyword) 	= 	Complete

_4. Under **Prediction**, enable the slider to turn them on.

Prediction

 Prediction on

2.2.9.3 Define Visualization Information

_1. Click the **Visualization** tab.

Monitoring	Filters and predictions	Visualization	Thresholds
------------	-------------------------	----------------------	------------

_2. For Trend settings, enter:

Item	Value
X axis label	Date
Y axis label	Completed Cases

Trend settings

X axis label

Y axis label

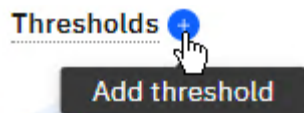
2.2.9.4 Define Thresholds

This setting allows you to customize the Gage threshold setting.

_1. Select the **Thresholds** tab.

Monitoring	Filters	Visualization	Thresholds
------------	---------	---------------	-------------------

_2. Click the **Thresholds +** button **twice** to add two thresholds.



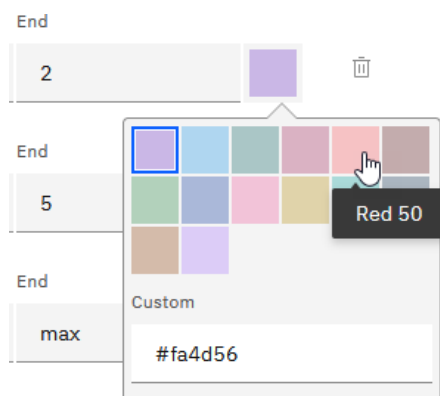
_3. For each Group select the following values from the dropdown list:

Threshold	Data item	Value
1	Threshold name	Case Completion Rate
	Value	2
	Range name 1	Low
	Range name 2	Normal
2	Threshold name	T2
	Value	5
	Range name	High

Your Thresholds setting should look exactly like this:

Thresholds +				
Threshold name	Value	Range name	Start	End
Case Completion Rate	2	Low	min	2
		Range name	Start	End
		Normal	2	5
Threshold name	Value	Range name	Start	End
T2	5	High	5	max

_4. Click the **Color patch** next to **Low**, then select the **Red color patch** from the palette.

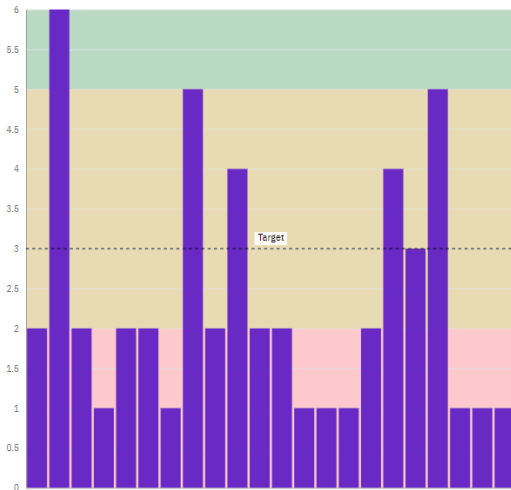


A bug may keep the color picker window open with now way to close it. This will be fixed in a later version. If you experience this, click Done, and then reopen the chart, navigate back to the Thresholds tab to perform the remaining steps.

_5. Using the above steps, customize the other two colors.

Item	Value
Normal	Yellow
High	Green

The color settings should look exactly like this:



2.2.9.5 Define Alert

This setting allows you to customize the Gage threshold setting.

_1. Click **Alerts +**



_2. Make sure the threshold **Case Completion Rate** is selected.



Case Completion Rate ▼

_3. Configure the Alert using the input values shown below:

Item	Value
Alert if the value	drops to or below the threshold
Message	The case completion rate is low.

Alerts +

Case Completion Rate ▼

Alert if the value

drops to or below the threshold ▼

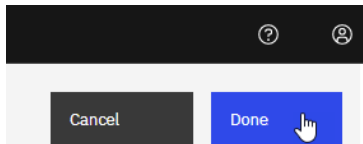
Message

Case completion rate is low.

Priority

High ▼

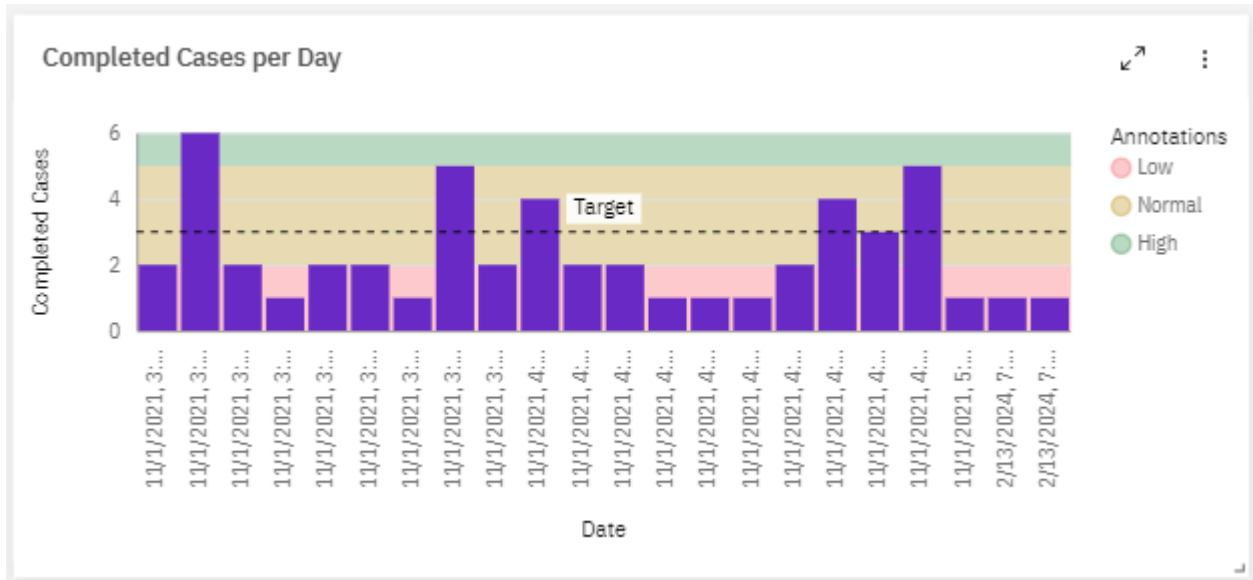
_4. Click **Done**



Note that some alerts may appear temporarily on the right side of the dashboard. This is expected.

_5. Click the **Save** icon on the toolbar above the Dashboard to save your work!

Your chart should look similar to this.

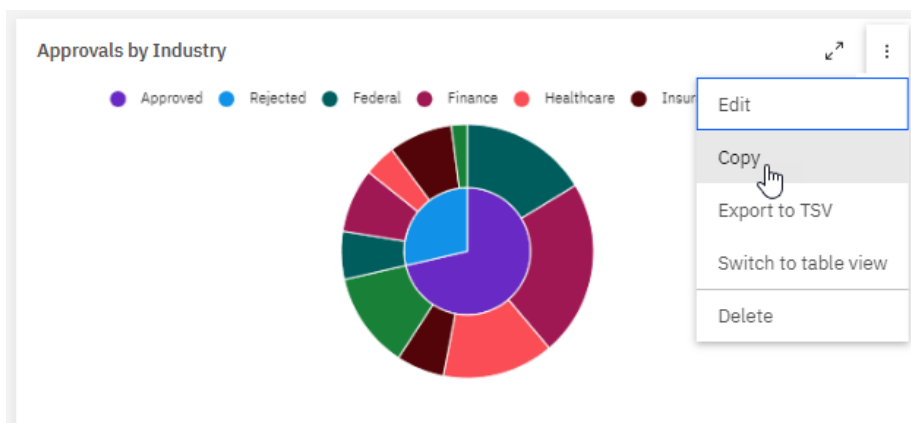


2.2.10 Create "Approvals by Industry Heatmap" Chart

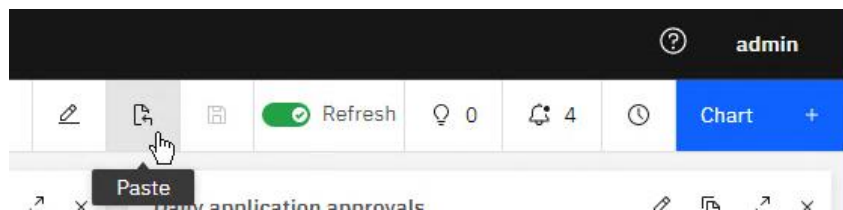
This heatmap chart will use the tile color intensity to indicate the count (the more saturated the color, the higher the count). The tiles will be positioned in a grid. The X-Axis will represent the approvals state: approved/rejected/approval pending. The Y-Axis will reflect the industry.

Since this chart is almost identical to the *Approval by Industry* chart, we will use the copy-and-paste technique to create this chart from the *Approvals by Industry* chart.

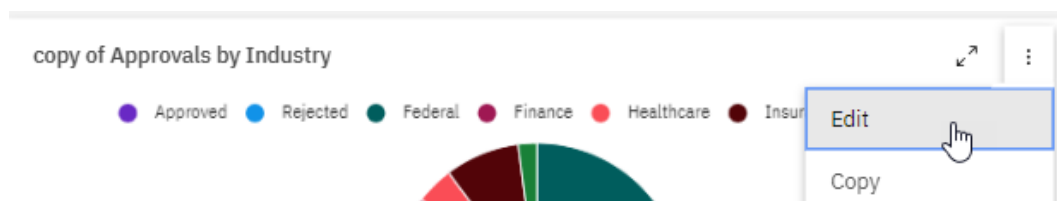
_1. On the *Approvals by Industry* chart, click the **ellipses** and select **Copy**.



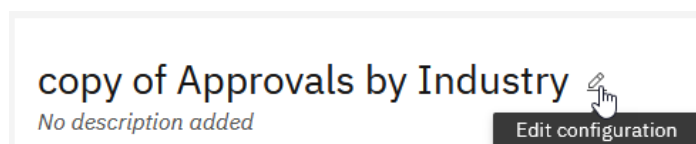
_2. On the toolbar above the Dashboard, click **Paste**.



_3. On the *copy of Approval by Industry* chart, click the **ellipses** and select **Edit**.



_4. Next to the chart name, click **Edit configuration**.



_5. For *Name*, enter **Approvals by Industry Heatmap** and then click **Apply**.

 A screenshot of the 'Edit chart' configuration dialog. The 'Name' field contains 'Approvals by Industry Heatmap' with a green checkmark. Below it is a 'Description (optional)' text area. Under 'Select measurement', five options are shown: Metric (selected with a checkmark), Period metric, KPI, Period KPI, and Data. Each option has a representative icon and a brief description. At the bottom, there are 'Cancel' and 'Apply' buttons, with the 'Apply' button having a green checkmark.

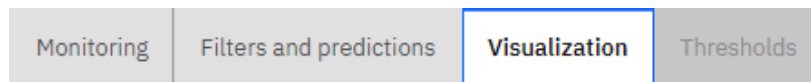
2.2.10.1 Define Monitoring Information

_1. For visualization, select **Heat Map**



2.2.10.2 Define Visualization Information

_1. Click the **Visualization** tab.



_2. For Trend settings, enter:

Item	Value
X axis label	Approval Status
Y axis label	Industry

Heat map settings

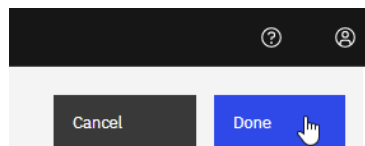
X axis label

Approval Status

Y axis label

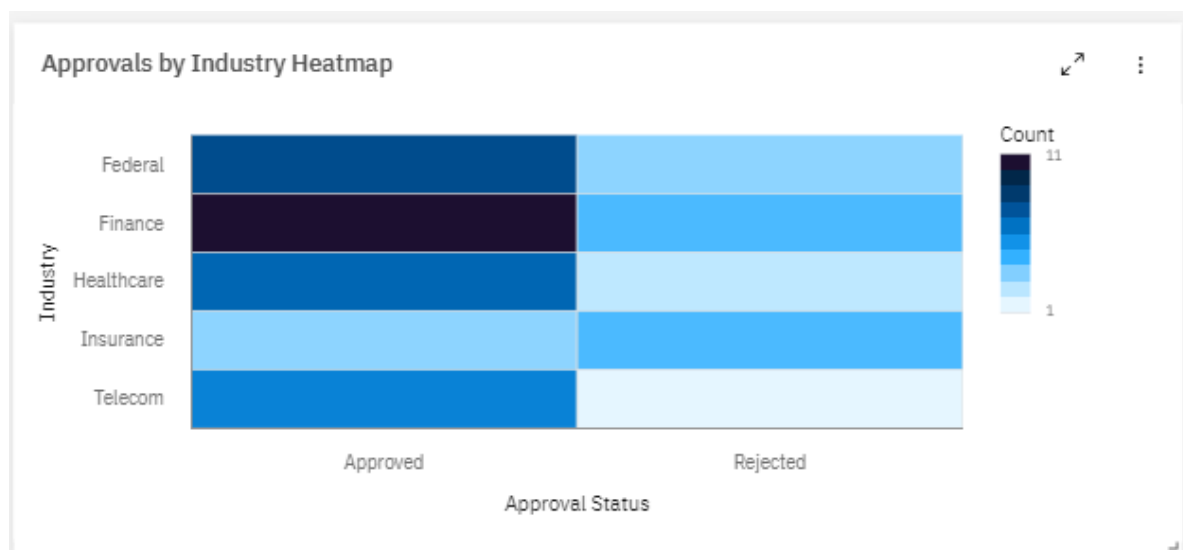
Industry

_3. Click **Done**



_4. Click the **Save** icon on the toolbar above the Dashboard to save your work!

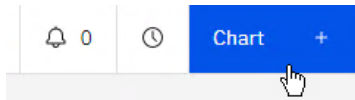
Your chart should look similar to this.



2.2.11 Create "Client Onboarding Data" Chart

You will be creating a Client Onboarding data chart. The data chart will contain columns representing selected Client Onboarding case properties.

_1. Click **Chart +**



_2. Enter the following and then click **Create**:

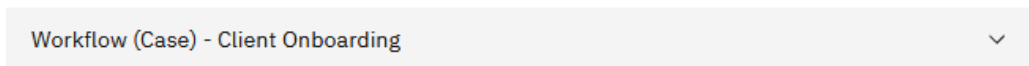
Item	Value
Name	Client Onboarding Data
Select measurement	Data

2.2.11.1 Define Monitoring Information

_1. For *Monitoring source*, select Workflow (Case) – Client Onboarding

Monitoring context

Monitoring source

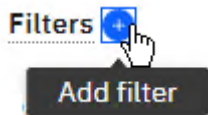


2.2.11.2 Define Filters

_1. Select **Filters** tab



_2. Click the **Filter +** button **three** times to add three filters.











_3. For each Group, select the following values from the dropdown list:

Group	Data item	Operator	Value
1	category – (keyword)	=	icm
2	type – (keyword)	=	case
3	state – (keyword)	=	Complete

Your Filters setting should look exactly like this:

Filters

Data item	Operator	Value
category - (keyword) 	= 	icm
		
Data item	Operator	Value
type - (keyword) 	= 	case
		
Data item	Operator	Value
state - (keyword) 	= 	Complete

2.2.11.3 Define Visualization

_1. Select the **Visualization** tab.

Monitoring	Filters and predictions	Visualization	Thresholds
------------	-------------------------	----------------------	------------

_2. Click the **Data columns +** button **five** times to add five data columns.

Data columns 






No columns 

_3. For each Group, select the following values from the dropdown list:



Data column	Data item	Label
1	CO_ServiceFee (data)	Service Fee
2	CO_Industry (data))	Industry
3	CO_AddressCountry (data)	Country
4	CO_ApprovalStatus (data)	Approved?
5	duration-seconds	Duration

Your *Data columns* setting should look exactly like this:

Data columns

Data item	Label
CO_ServicesFee (data) 	Service Fee
<input type="checkbox"/> Set duration display format	
CO_Industry (data) 	Industry
<input type="checkbox"/> Set duration display format	
CO_AddressCountry (data) 	Country
<input type="checkbox"/> Set duration display format	
CO_ApprovalStatus (data) 	Approved?
<input type="checkbox"/> Set duration display format	
duration-seconds 	Duration

_4. For the *Duration* table column, select **Set duration display format**, set *Input (source) unit* to Second, and for the *Output (display) unit*, select **Minute**.

duration-seconds 	Duration
<input checked="" type="checkbox"/> Set duration display format	
Input (source) unit	Output (display) unit
Second 	Minute 

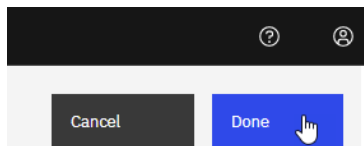
The data in the Data Chart should look similar to this.

Data

5 columns, 51 rows

Service Fee	Industry	Country	Approved?	Duration
18,000	Federal	Canada	Rejected	15.13 minutes
23,750	Finance	Canada	Approved	13.26 minutes
15,000	Healthcare	USA	Approved	11.68 minutes

_5. Click **Done**



_6. Click the **Save** icon on the toolbar above the Dashboard to save your work!

2.2.11.4 Explore the Table Chart

_1. Click the Duration column to sort the table rows by Duration in descending order.

Client Onboarding Data

Service Fee	Industry	Country	Approved?	Duration
30,000	Finance	USA	Rejected	44.58 minutes
45,000	Federal	Canada	Approved	42.51 minutes
38,000	Telecom	Australia	Approved	39.4 minutes
20,000	Finance	South Africa	Approved	37.96 minutes
38,000	Federal	Canada	Approved	34.48 minutes

_2. Click **vertical ...** and note the **Export to TSV** capability.

You can export the data in the chart as a spreadsheet in the TSV (tab separated values) format.

Client Onboarding Data

Service Fee	Industry	Country	Approved?
30,000	Finance	USA	Rejected
45,000	Federal	Canada	Approved
38,000	Telecom	Australia	Approved

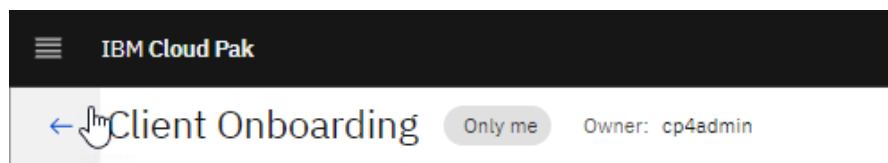
Edit
Copy
Export to TSV
Delete

2.2.12 Create a Configure Goal

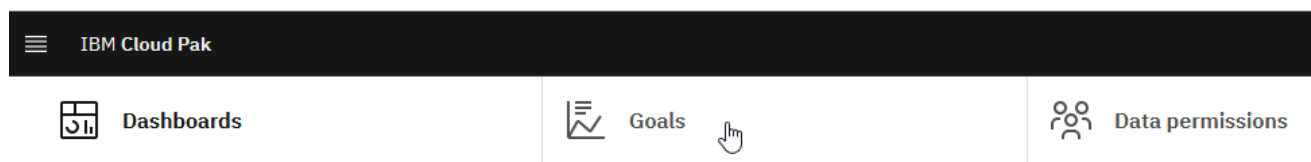
A Goal is a business statement that brings purpose and scope to your dashboards. Goals are used to aggregate charts within a dashboard and to give dashboards a business purpose. A goal's definition includes the details of a specific objective you want to achieve, the time frame for achieving an objective, and identifiers (categories and colors) for the goal.

2.2.12.1 Create a Goal

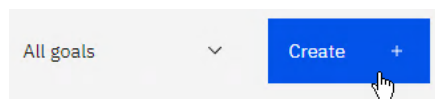
_1. Click the **arrow** to the left of the Client Onboarding dashboard.



_2. Click **Goals**



_3. Click **Create**



_4. Complete the Goal specifications:

- For *Name*, enter **Focus Corp's top Client Onboarding KPI**
- For the *Description*, enter **Focus on the three top KPIs identified by the senior management team.**
- For *Priority*, select **High**
- Set *Goal color* to **Red**

Your Goal definition should look exactly like this:

Details

Name

Focus Corp's top Client Onboarding KPI ✓

Description (optional)

Focus on the three top KPI identified by senior management team. ✓

Goal color

Red ✓

Goal specification

Goal classification (optional)

Enter category

Priority

☐ Low ☐ Medium ☒ High ✓

Start date

☒ Now ☐ Custom

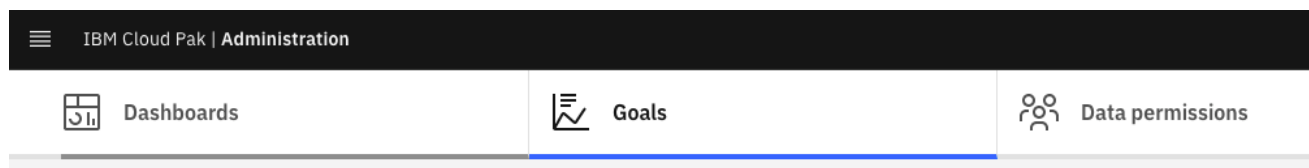
10/25/2021

_5. Click **Save**

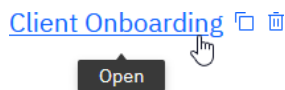


2.2.12.2 Set a business goal for selected charts

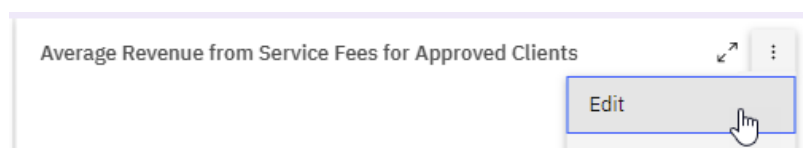
_1. Click **Dashboards**.



_2. Click **Client Onboarding** dashboard.

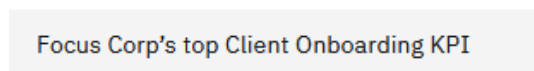


_3. On the **Average Revenue from Service Fees for Approved Clients** chart, click the **ellipses** and select **Edit**.

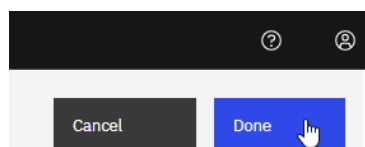


_4. For Business goal, from the dropdown list, select **Focus Corp's top Client Onboarding KPI**.

Business goal

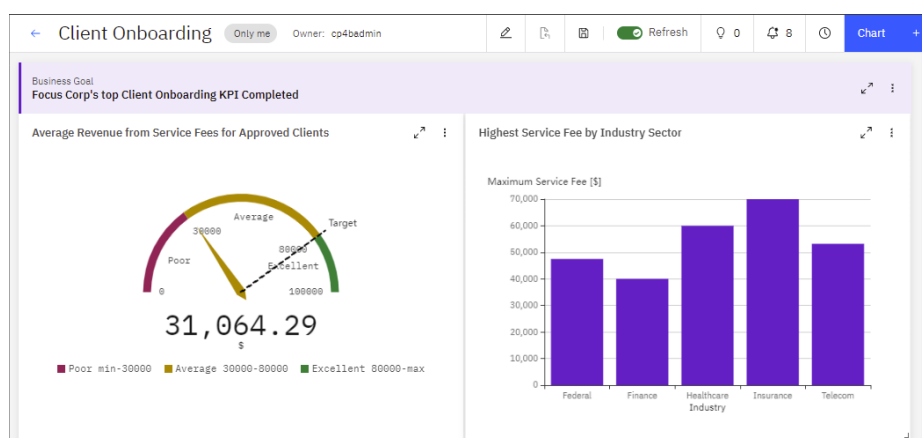


_5. Click **Done**



_6. Repeat the above steps to add a Business Goal to the **Highest Service Fee by Industry Sector**.

_7. The top of your Dashboard should now look similar to this:

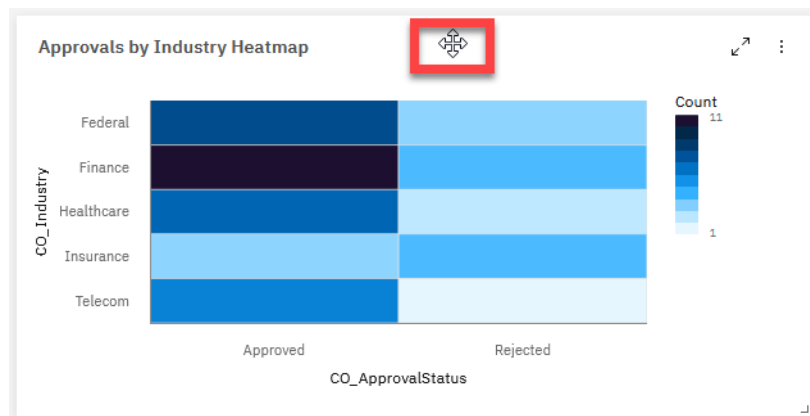


2.2.13 Change Dashboard Layout

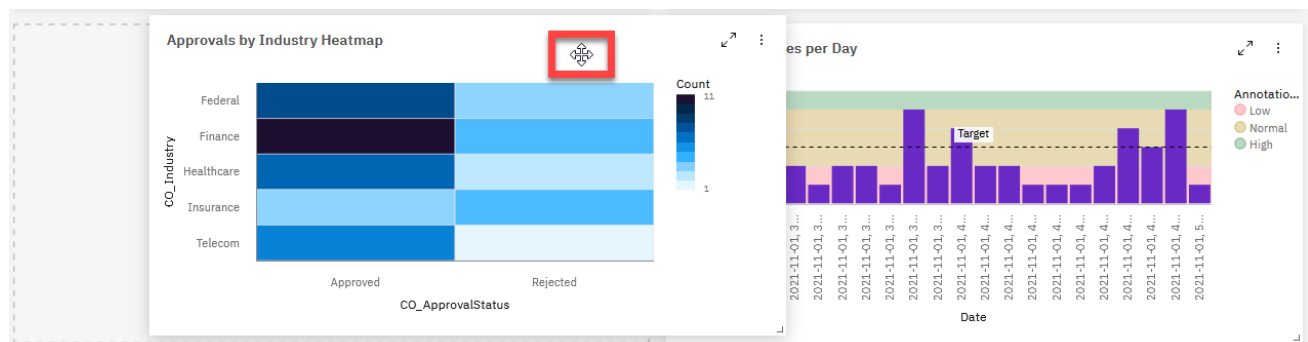
You will now customize your Dashboard by moving and changing chart sizes.

2.2.13.1 Move Approvals by Industry Heatmap Chart

_1. Click and hold the **title area** on the *Approvals by Industry Heatmap* chart:

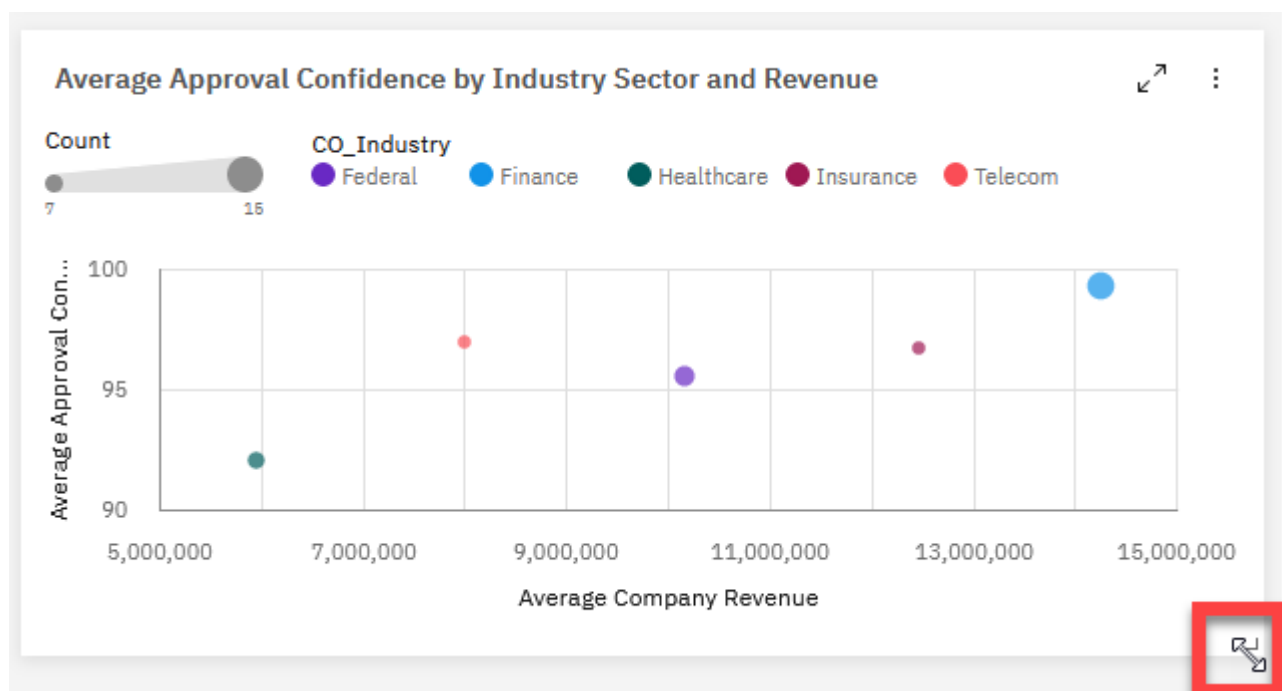


_2. **Drag** the chart to the empty area left of the Completed Cases per Day chart and release.

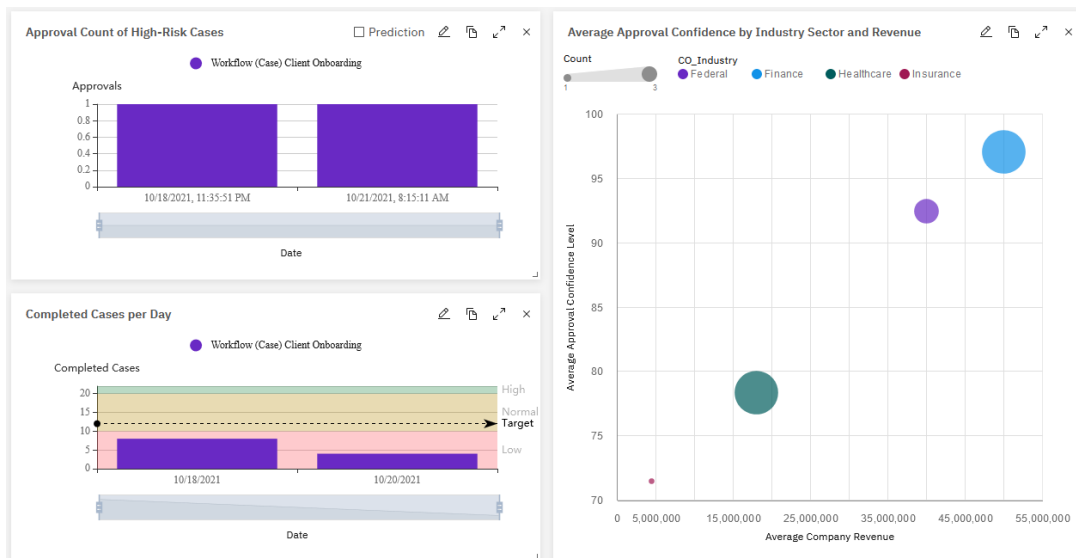


2.2.13.2 Expand chart Average Approval Confidence by Industry Sector and Revenue

_1. Click and hold the image expander in the bottom right corner of the **Average Approval Confidence by Industry Sector and Revenue** chart.

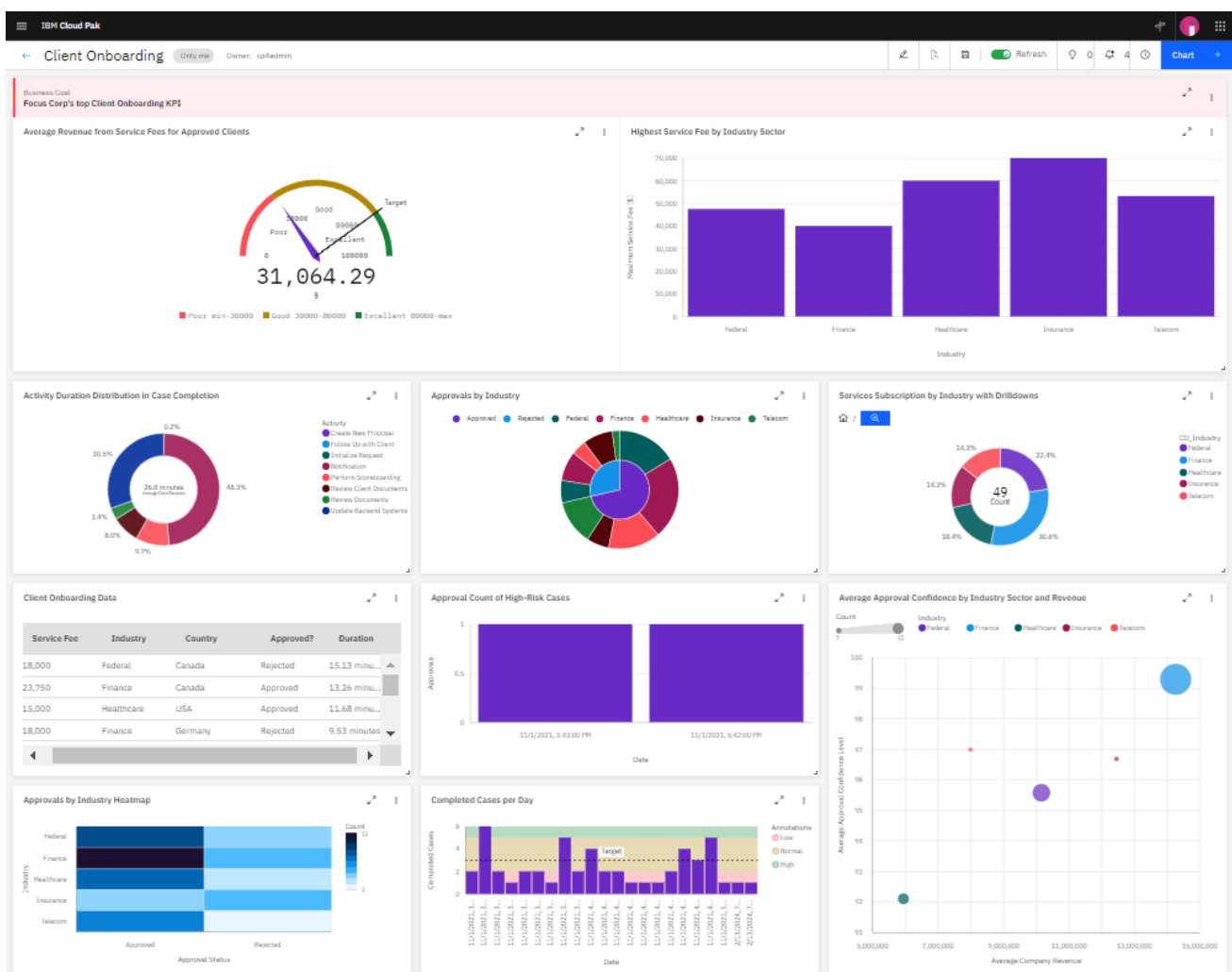


_2. Stretch the chart downwards until it achieves the height of two charts.



_3. Click the **Save** icon on the toolbar above the Dashboard to save your work!

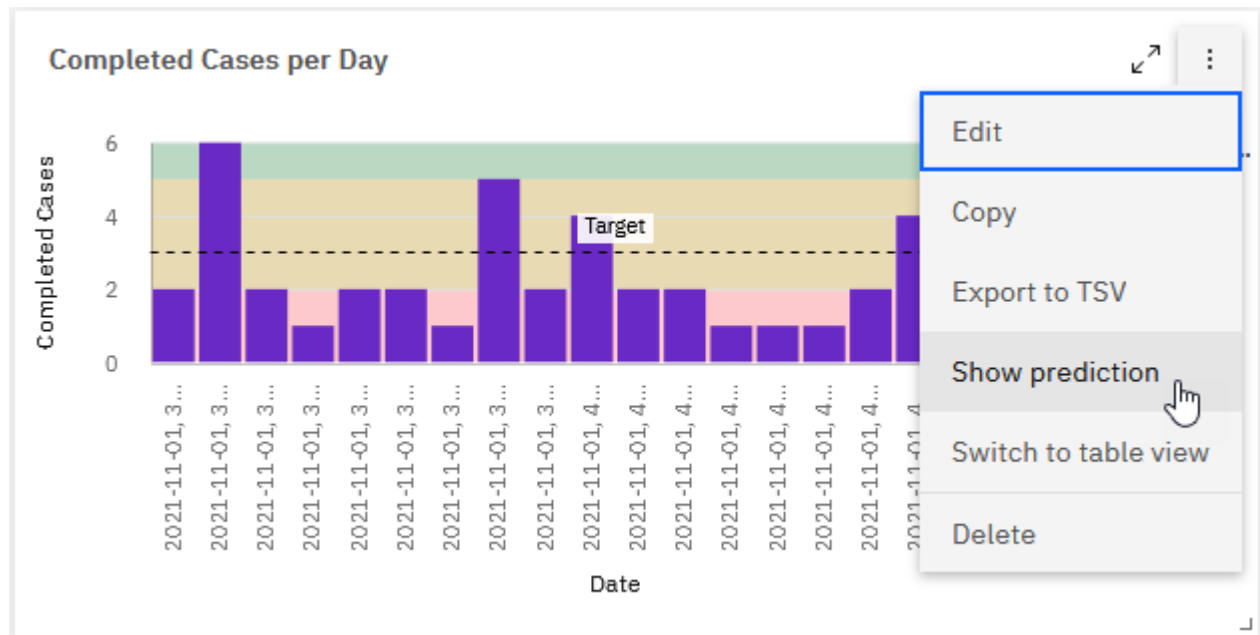
_4. Your final version of the Client Onboarding Dashboard should now look similar to this:



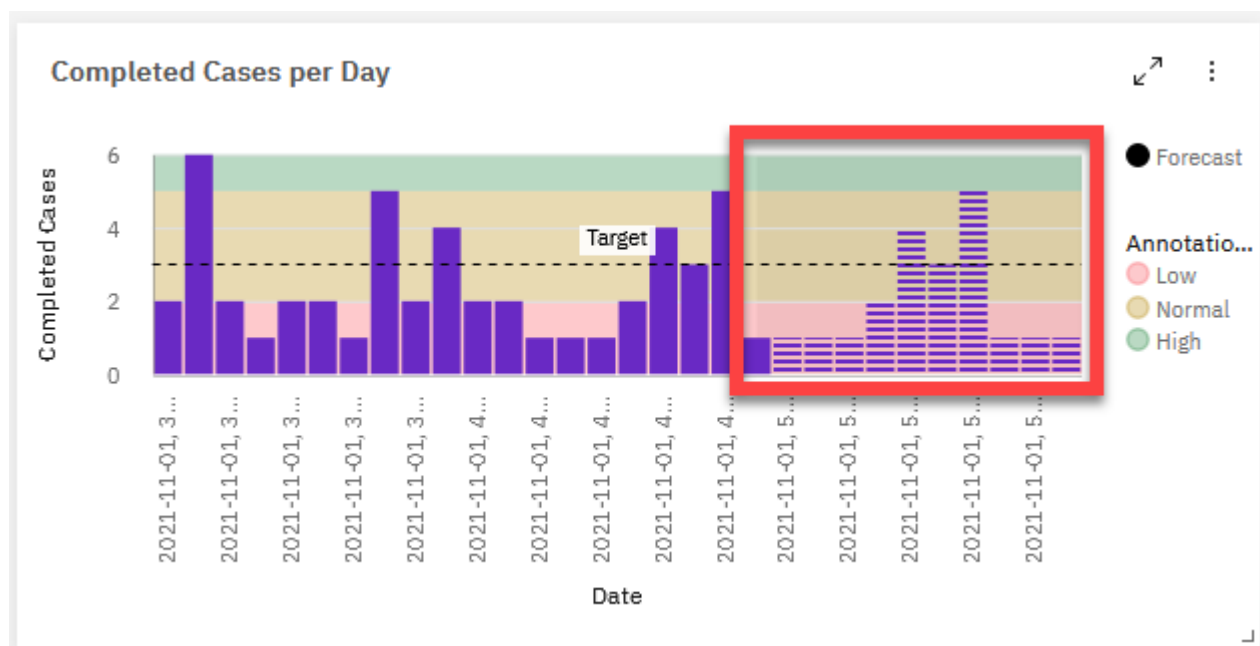
2.2.14 Explore Advanced Dashboard Features

2.2.14.1 KPI Predictions

_1. Click the ellipses on the Completed Cases per Day chart and then select **Show prediction**.

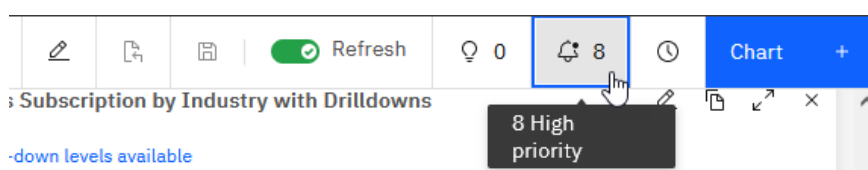


_2. You should now see the predicted case completion rate information.

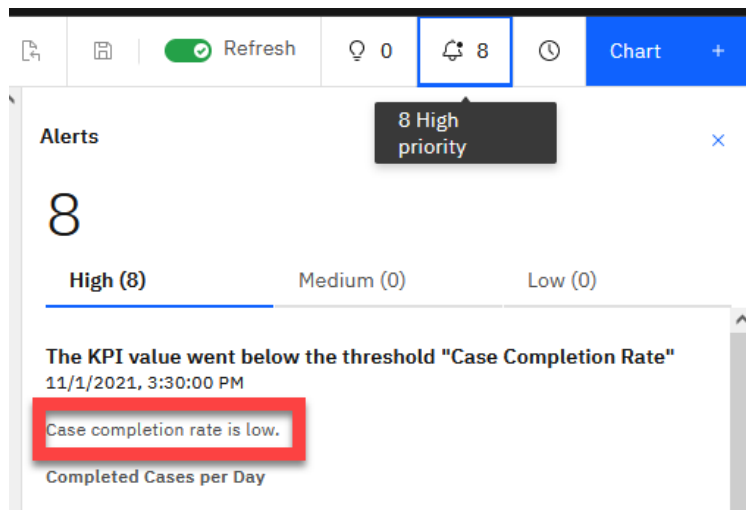


2.2.14.2 Dashboard Alerts

_1. Click the **Alert** icon in the toolbar above the Dashboard.



_2. You should now see all the alerts generated whenever the Case Completion Rate just reached or went below the lower threshold (2) you defined in the Completed Cases per Day Chart.



You may see a different number of alerts generated when other users work on the Client Onboarding case.

2.3 Summary

In this lab, you learned how to use the Business Performance Center to build a dashboard and provide insights into a Client Onboarding solution for a line of business users. Specifically, you learned how to create and configure the following BPC artifacts: Dashboards, Charts, Chart Alerts, and Goals.

Appendix A. IBM Business Automation Insights Architecture

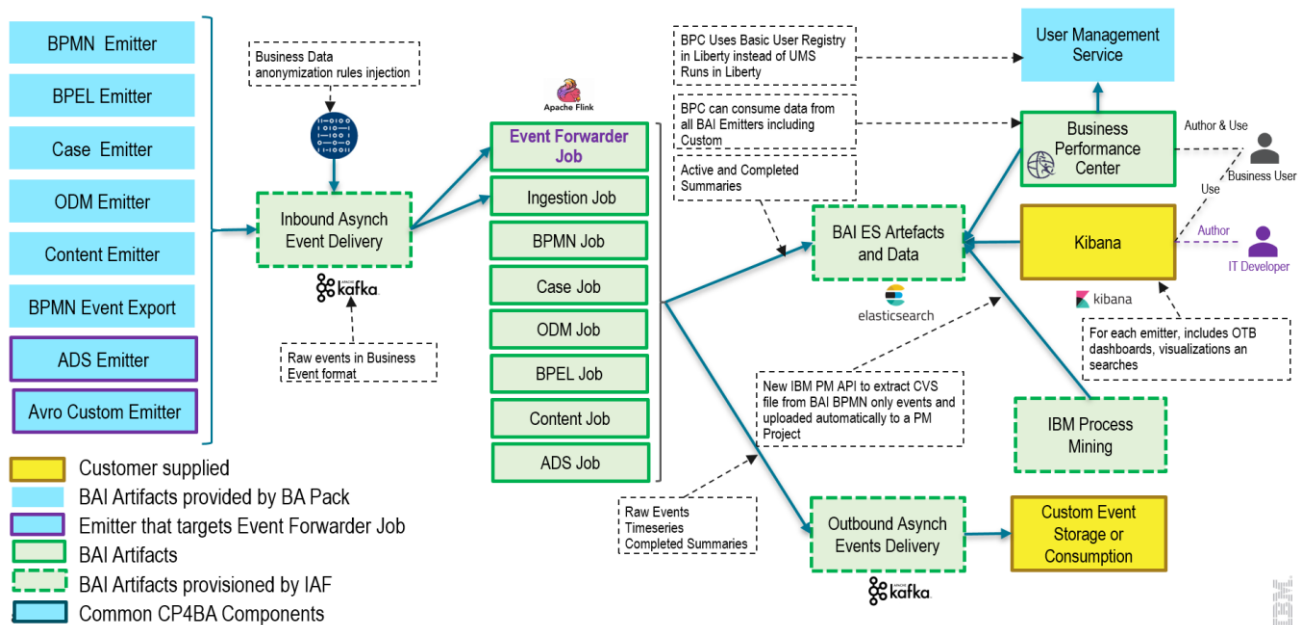


Figure 2. IBM Business Automation Insights Architecture – Full Detail

Additional presentation materials for IBMers and Business Partners:

- More technical information about BAI: <https://ibm.box.com/v/IBM-BAI-Tech-Intro>
- More technical details about BPC: <https://ibm.box.com/v/BusinessPerformanceCenter>

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