Reporting & Data Sources

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US Commercial Sales - Contact Center and Customer Experience

April 2024

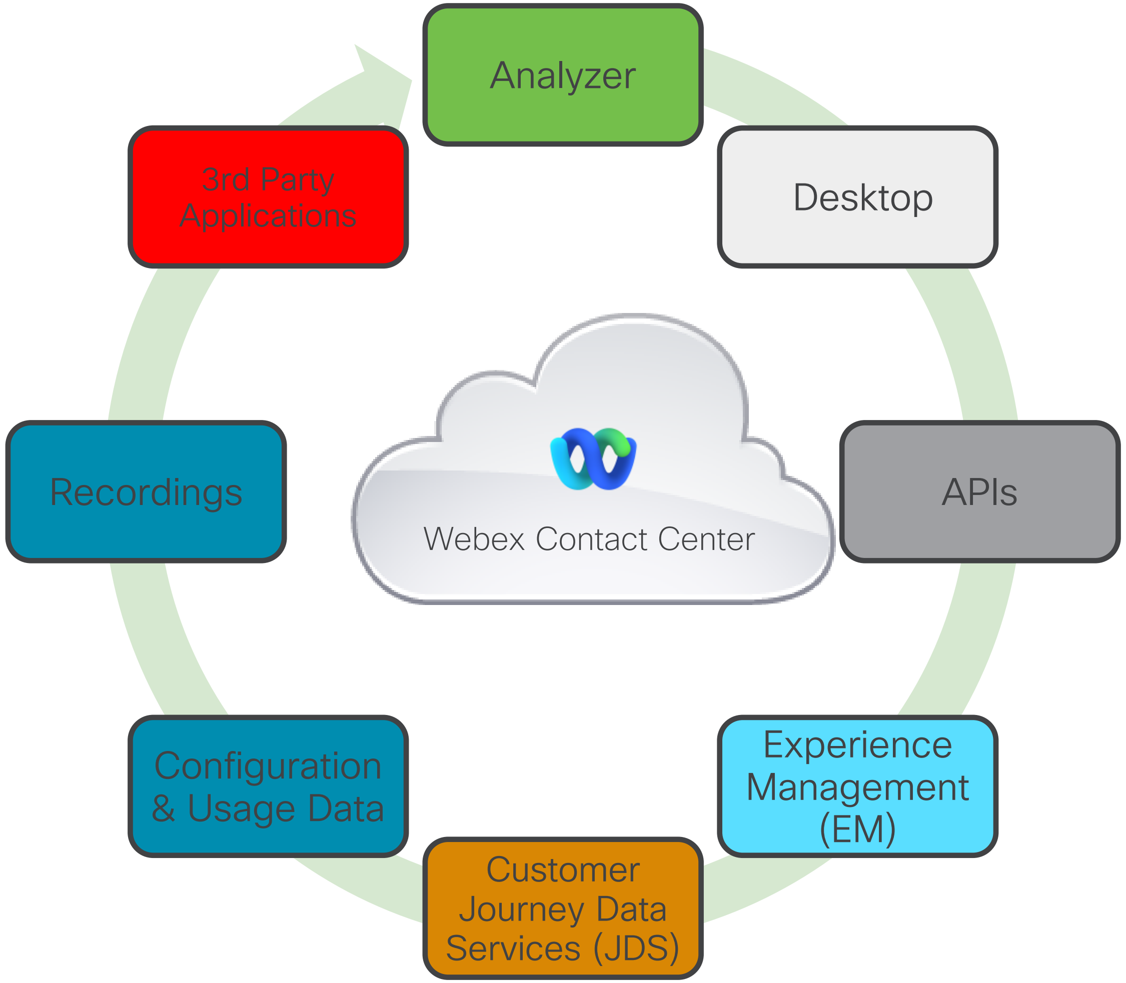
Contact Center Data: Why are they important?

Measure → Analyze → Actions

Business Outcomes:

- ✓ Improve Customer Experience
- ✓ Boost Agent Performance
- ✓ Reduce Cost
- ✓ Improve Sales Conversions

Webex CC Data Sources



- **Analyzer**: The primary reporting portal for Webex Contact Center. Analyzer mines real-time and historical data and visualizes into specific business views.

- Analyzer stores information related to customer interactions and logged-in agent activity.

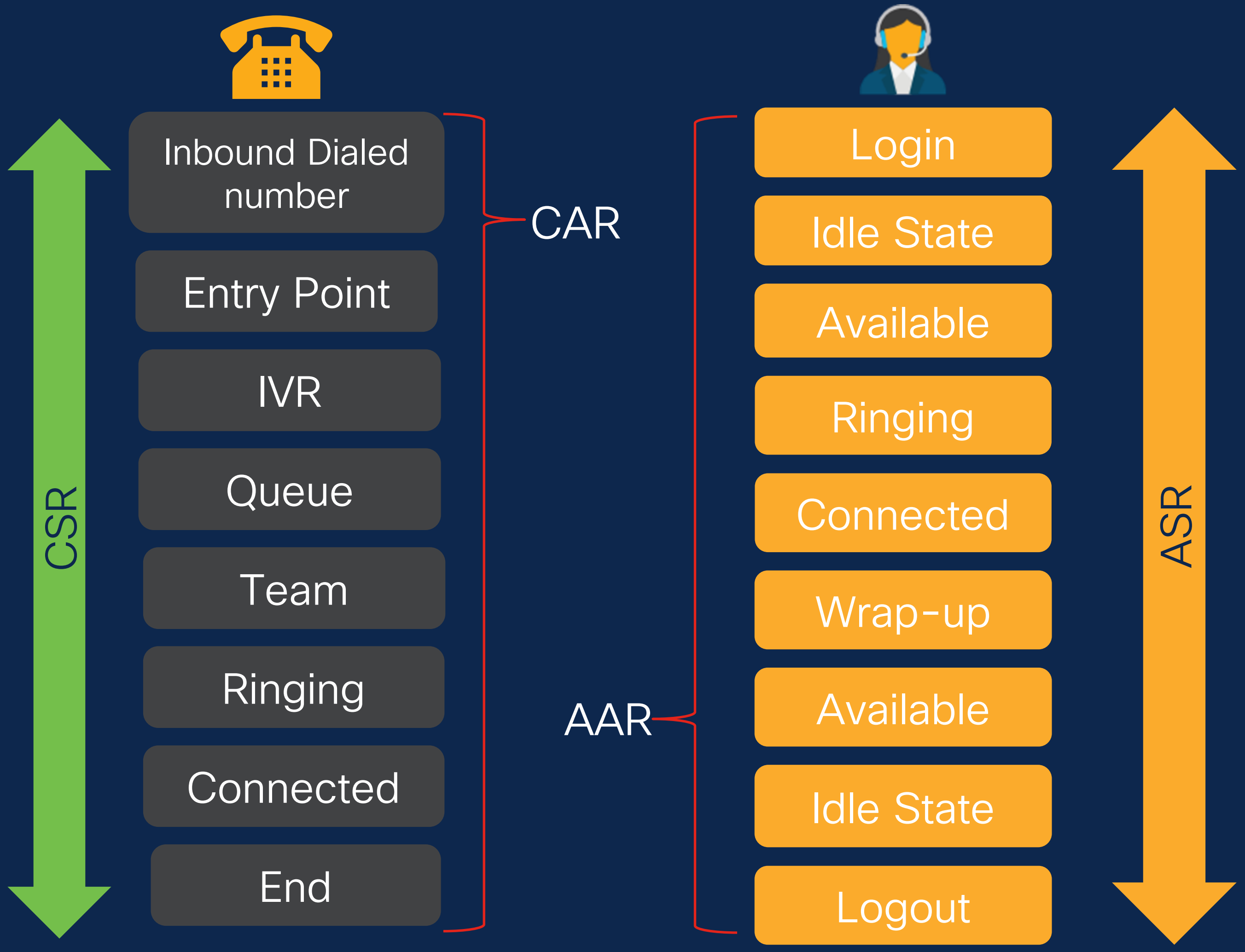
Agenda

- Understanding the Data
- Exploring the Data
- Processing the Data
- Visualizing the Data
- Sharing the Data
- Extracting the Data
- Closure

Understanding the Data

Pickleball Repositories

Analyzer Repositories



Customer
- Customer Session Record (CSR)
- Customer Activity Record (CAR)

Agent
- Agent Session Record (ASR)
- Agent Activity Record (AAR)

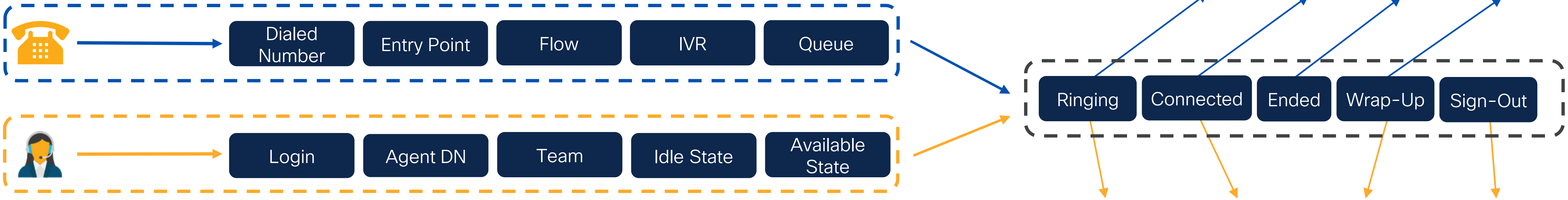
Data Creation and Storage

Customer Activity Record

Activity State	Activity Start Timestamp	Activity End Timestamp	Queue Name	Activity Duration
new	2024-03-18 03:31:52 PM	2024-03-18 03:31:52 PM	N/A	0:00:01
ivr-connected	2024-03-18 03:31:52 PM	2024-03-18 03:32:08 PM	N/A	0:00:16
parked	2024-03-18 03:32:08 PM	2024-03-18 03:32:55 PM	KT_TelephonyQ	0:00:47
connect	2024-03-18 03:32:55 PM	2024-03-18 03:33:03 PM	KT_TelephonyQ	0:00:08
connected	2024-03-18 03:33:03 PM	2024-03-18 03:33:23 PM	KT_TelephonyQ	0:00:20
Ended	2024-03-18 03:33:23 PM	2024-03-18 03:33:23 PM	KT_TelephonyQ	0:00:00

Customer Session Record

CSR Session ID	ANI	Call Start Time	DNIS	Entry Point	Flow Name	IVR Time	Queue	Queue Duration	Team	Agent	Ringing Duration	Connected Duration	Call End Time	Wrap Up Time
6f45bd49-8334-4fb7-b1c5-7d18597b694b	+14692553791	2024-03-18 03:31:52 PM	+14152307687	Main_EP	Demo_Flow	00:00:16	DemoQ	0:00:47	Support_Main	Clark Kent	0:00:08	0:00:20	2022/05/23 03:33:23 PM	00:00:05



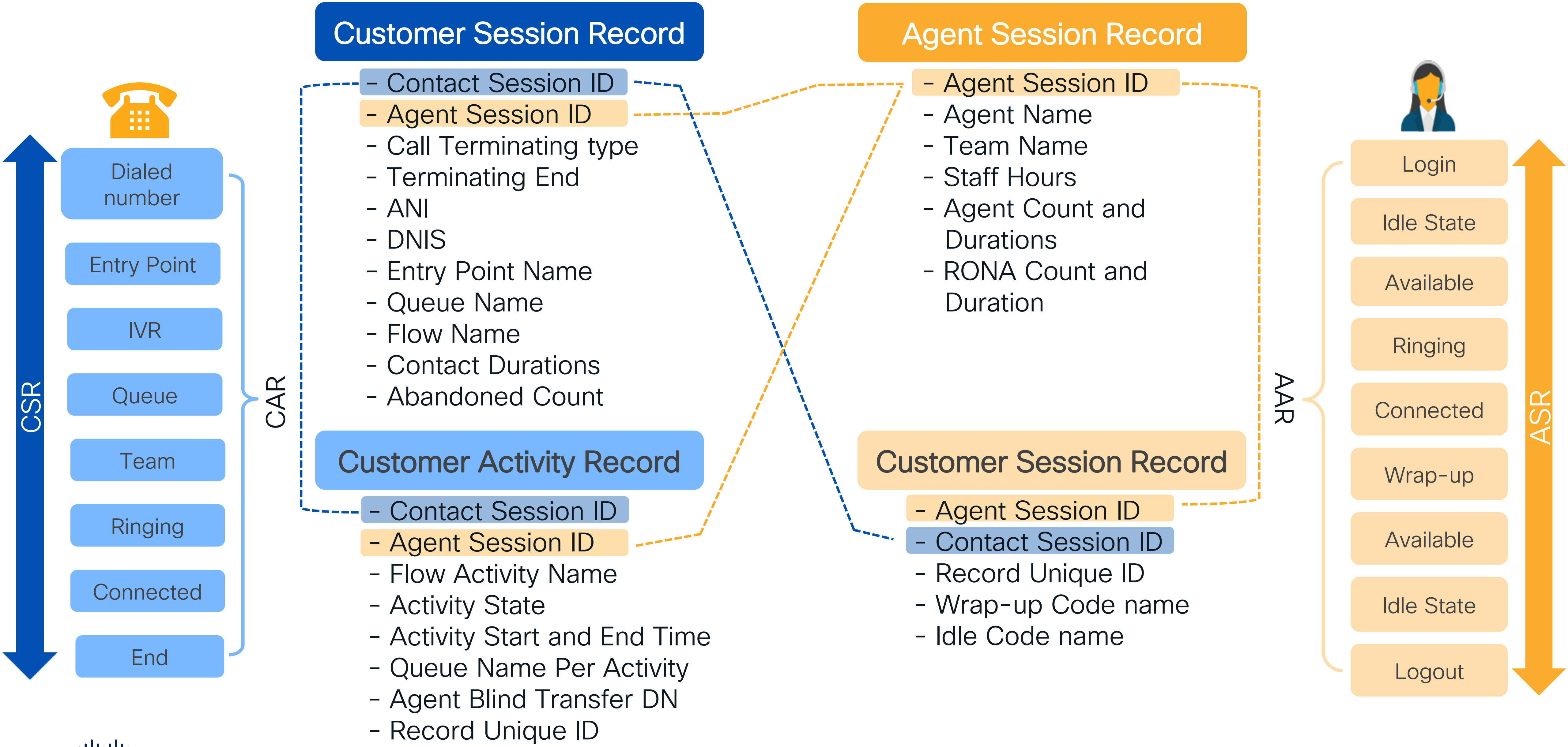
ASR SessionID	Agent Name	Login Timestamp	Agent Endpoint (DN)	Team Name	Idle Duration	Available Duration	Ringing Duration	Connected Duration	Wrapup Duration	Logout Timestamp
f2f45e74-8fe6-4361-a48d-bd9487ce8e58	Clark Kent	2024-03-18 03:32:40 PM	+14695622405	Support_Team	0:00:14	0:00:06	0:00:08	0:00:20	0:00:05	2024-03-18 03:33:32 PM

Agent Session Record

Agent Activity Record

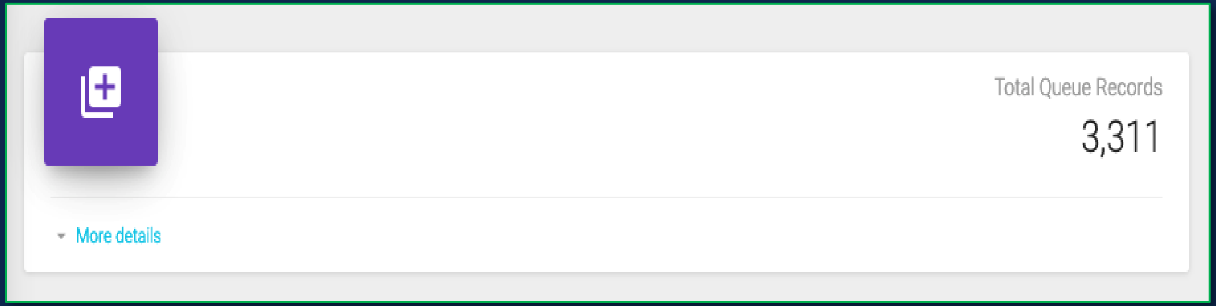
Activity State	Contact Session ID	Activity Duration	Activity Start Timestamp	Activity End Timestamp
idle	N/A	00:00:14	03/18/2024 03:32:40 PM	03/18/2024 03:32:55 PM
available	N/A	00:00:02	03/18/2024 03:32:55 PM	03/18/2024 03:32:57 PM
ringing	6f45bd49-8334-4fb7-b1c5-7d18597b694b	00:00:07	03/18/2024 03:32:57 PM	03/18/2024 03:33:03 PM
connected	6f45bd49-8334-4fb7-b1c5-7d18597b694b	00:00:20	03/18/2024 03:33:03 PM	03/18/2024 03:33:23 PM
wrapup	6f45bd49-8334-4fb7-b1c5-7d18597b694b	00:00:05	03/18/2024 03:33:23 PM	03/18/2024 03:33:27 PM
logged-out	N/A	00:00:00	03/18/2024 03:33:32 PM	03/18/2024 03:33:32 PM

Repository Interconnection

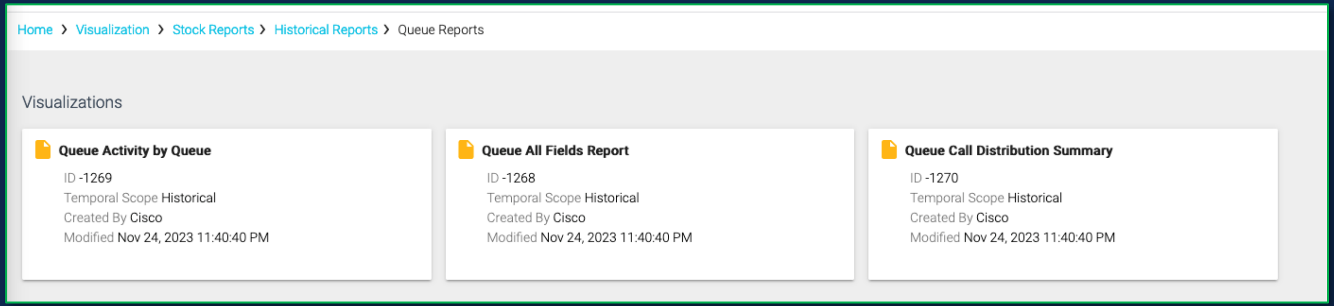


Queue Based Reporting

Challenge: Using CSR repository, we did not have access to critical duration and field metrics with respect to each queue a contact went through, as all information was aggregated on last queue.



- With Queue-Based Reporting (QBR), we are allowing for high visibility of reporting attributes at each single Queue level.
- *QBR is currently in EA, going GA in the coming weeks.*
- 3 new stock reports added to familiarize yourselves with the new repository.



The 5th Repository – Queue Record (CLR)

A CSR shows the last Queue/Team/Agent that handled the interaction

Customer Session Record

Contact Session ID	ANI	DNIS	Queue	Site	Team	Agent	Call Start Time ↑	Call End Time	Call Duration	IVR Time	Queue Time	Connected Time
ca3817cf-2b02-4d93-be06-36d46c190820	+14692553791	+15084337864	Q_Admin	WCCAnalyzerLab-Site	Team-1	John Smith	03/18/24 09:52:43	03/18/24 05:14:05	00:01:23	00:00:07	00:00:10	00:00:22

Customer Activity Record

Contact Session ID	Record Unique ID	Activity State	Entrypoint Name	Queue Name	Activity Start Timestamp	Activity End Timestamp	Activity Duration	Agent Name
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-1675419163075-new	new	EP_WCCAnalyzerLab	N/A	03/18/2024 09:52:43 AM	03/18/2024 09:52:43 AM	00:00:00	N/A
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-1675419163507-treatment	ivr-connected	EP_WCCAnalyzerLab	N/A	03/18/2024 09:52:43 AM	03/18/2024 09:52:50 AM	00:00:07	N/A
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-1675419170776-connect	connect	EP_WCCAnalyzerLab	SBR_QV_Team1	03/18/2024 09:52:50 AM	03/18/2024 09:53:11 AM	00:00:20	John Smith
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-1675419191192-con-to-agent-error	con-to-agent-error	N/A	SBR_QV_Team1	03/18/2024 09:53:11 AM	03/18/2024 09:53:11 AM	00:00:00	John Smith
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-1675419207676-dequeued	dequeued	EP_WCCAnalyzerLab	Q_Admin	03/18/2024 09:53:27 AM	03/18/2024 09:53:27 AM	00:00:00	N/A
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-1675419217311-connect	connect	EP_WCCAnalyzerLab	Q_Admin	03/18/2024 09:53:37 AM	03/18/2024 09:53:43 AM	00:00:07	Lisa Jones

Queue Record

Value of Contact Session ID ↓	Value of CallLeg ID	Value of CallLeg Start Timestamp	Value of CallLeg End Timestamp	Value of Queue Name	Value of Agent Name	Value of Handle Type	Value of Service Level Threshold	Value of Is CallLeg Handled	Value of Is Within Service Level
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-callLeg-1675419163075	03/18/2024 09:52:43 AM	2024-03-18 09:53:27 AM	SBR_QV_Team1	John Smith	dequeued	30.0	0.0	0.0
ca3817cf-2b02-4d93-be06-36d46c190820	ca3817cf-2b02-4d93-be06-36d46c190820-callLeg-1675419207676	03/18/2024 09:53:27 AM	2024-03-18 05:14:05 AM	Q_Admin	Lisa Jones	normal	60.0	1.0	1.0

Field: Count, Value, Cardinality

Measure: Sum, Average, Min, Max, Count, Value

Let’s zoom in a repository!

When creating a report, we can select our data to be either Value only or the rest of options (all but value).

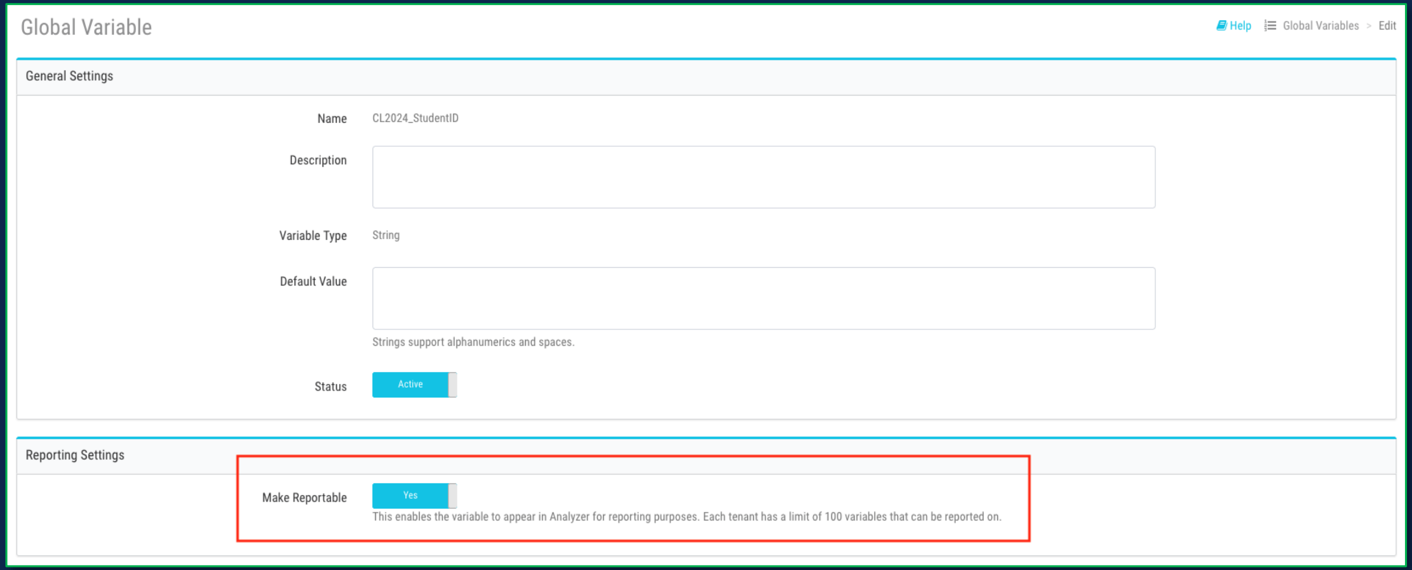
Team Name	Agent Name	Transfer Count	Queue Duration	Connected Duration
Team-1	Agent-1	0	00:07	2:37
Team-1	Agent-2	0	01:03	1:46
Team-2	Agent-1	1	00:22	3:03
Team-2	Agent-3	0	00:00	0:55

Field (Textual)

Measure (Numeric)

Global Variables in Reporting

- Global Variables are configured in <u>Management Portal</u> and can be used in the flows.
    - They can be used to <u>store information for flow operations, to store custom information for Reporting or to provide additional context to agents</u>.
    - To be visible in Analyzer, they need to be set as Reportable during configuration.
- They can be of type **String, Integer, Date Time, Boolean** or **Decimal.**
- We can have up to maximum 100 Global Variables set as Reportable in a tenant.



There is <u>no way</u> to manually insert, modify or delete data in Analyzer repositories. Global Variables are the only way we can "alter" these tables besides the variables defined natively by Cisco.

Secure Global Variables in Reporting

Global Variables can now be designated as sensitive.

This action ensures these variables are not reportable, and will be encrypted during transit to various services within Webex Contact Center

This feature offers a much higher level of security for customers wanted to save PHI, PCI, and PIII data in the system which can be used to present to agents as part of Inbound or Outbound operations.

Global Variables

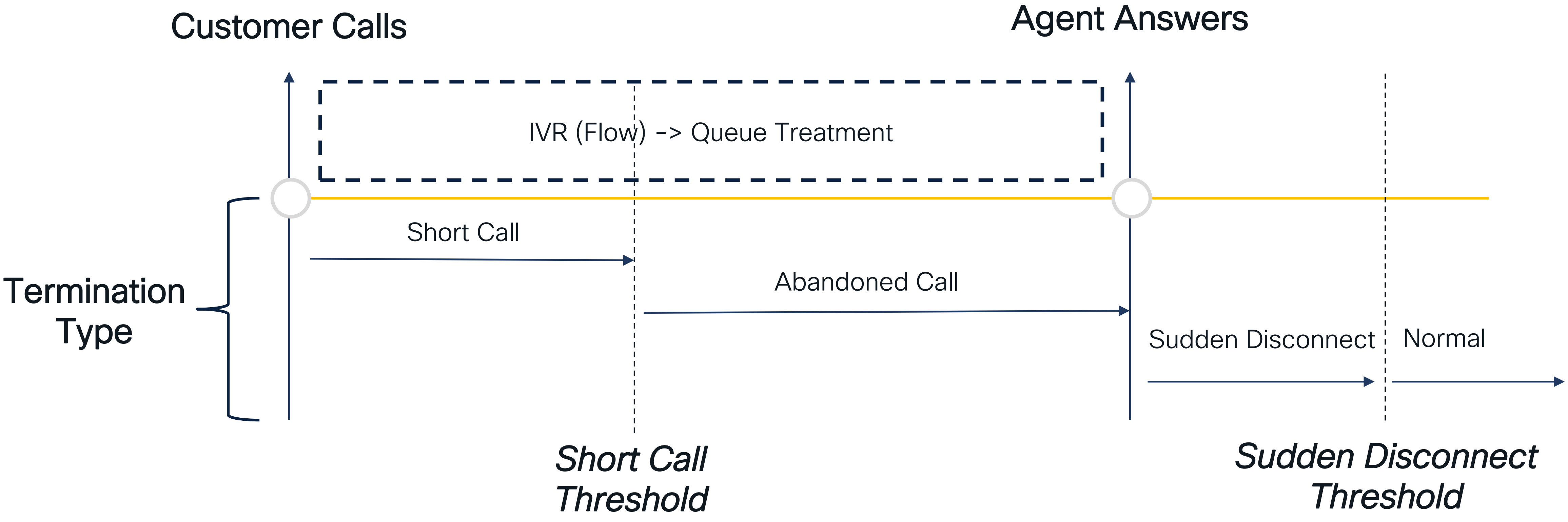
+ New Global Variable

	Name	Variable Type	Reportable	Sensitive	Agent Viewable	Status
•••	AccountNumber	String	No	Yes	Yes	Active
•••	ani	String	No	No	Yes	Active
•••	Appliances	String	Yes	No	Yes	Active
•••	CampaignId	String	No	No	Yes	Active
•••	campaignId	String	Yes	No	Yes	Active
•••	City	String	Yes	No	Yes	Active
•••	Cleaning	String	Yes	No	Yes	Active
•••	creditRisk	String	Yes	No	Yes	Active
•••	Customer_Number	String	Yes	No	Yes	Active
•••	CustomerNumber	String	Yes	No	Yes	Active

Understanding the Data: Grab Bag

Webex CC Handle/Termination Types

- **Termination Type** specifies how a call was terminated based on what point of the call journey the contact was ended as well as the threshold timers configured by the administrators. Administrators can configure three threshold timers: **(1) Sudden Disconnect Threshold (2) Short Call Threshold (3) Service Level Threshold.** In the diagram below, you can see what is the expected termination type based on the point the call was ended.



Service Level Calculation

- A call is considered as Is Within Service Level if it was handled (accepted) or abandoned before the Service Level Threshold (SLT).
- For CSR, the calculation is done based on the timestamps of the parked -> connected/ended events of the first queue.
- For blind/consult transfers, there is no **parked** event, so timer starts from the transferred event (only relevant for CLR).
- SL Calculation should be irrespective of the handle/termination type of the contact.

The above behaviour is controlled by a FF. If you notice differences in your tenants' behaviour and you would like to follow the above rules, please reach out to Cisco.

Agent Multiple States

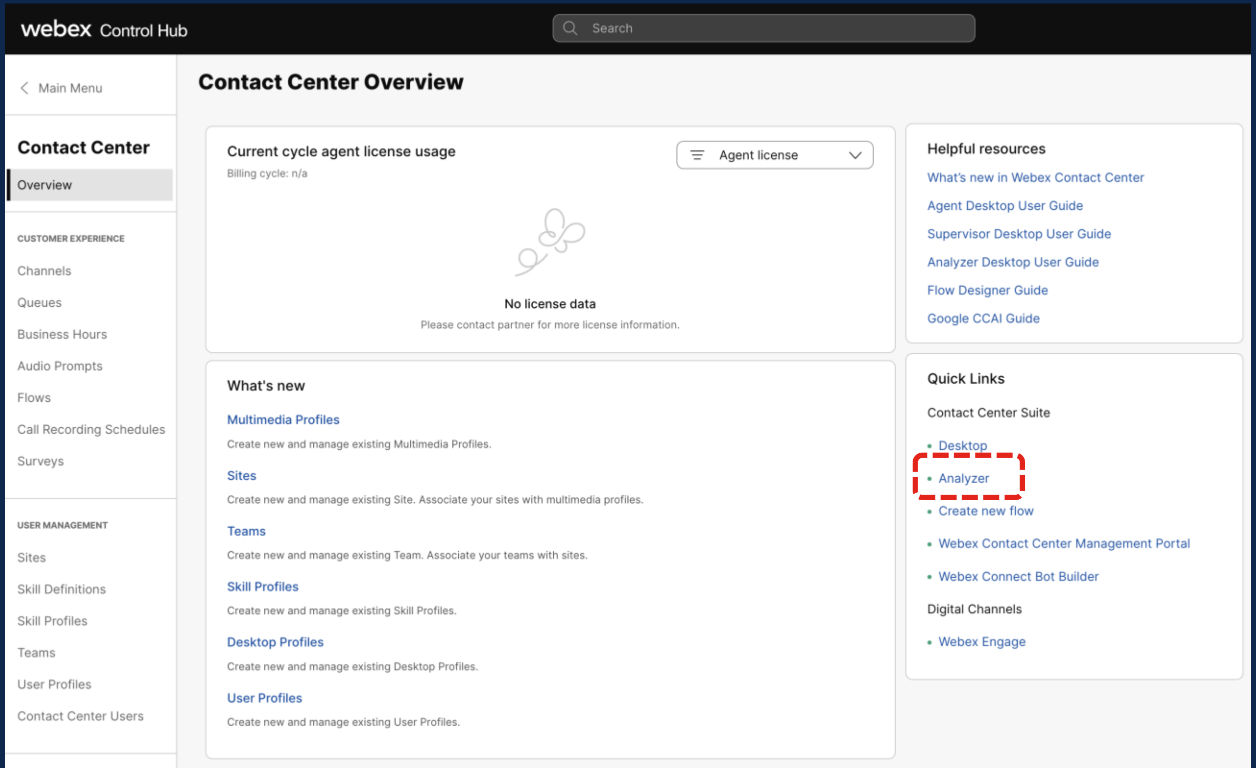
- ASR or AAR reports show multiple entries for same agent

Agent Name	Activity State	Activity Start Timestamp	Activity End Timestamp
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM
Agent137 Lab	idle	2024-03-04 6:02:23 PM	2024-03-04 7:59:48 PM

- An agent has an entry in the repository for each of their channel types:
  - If the agent has a MM profile of e.g. 1 voice, 5 chat, 5 email, 5 social, then by default they will get 16 entries for a single status change.
- If this causes confusion, you can use filter *channel type=telephony* (for Voice only agents).

Exploring the Data

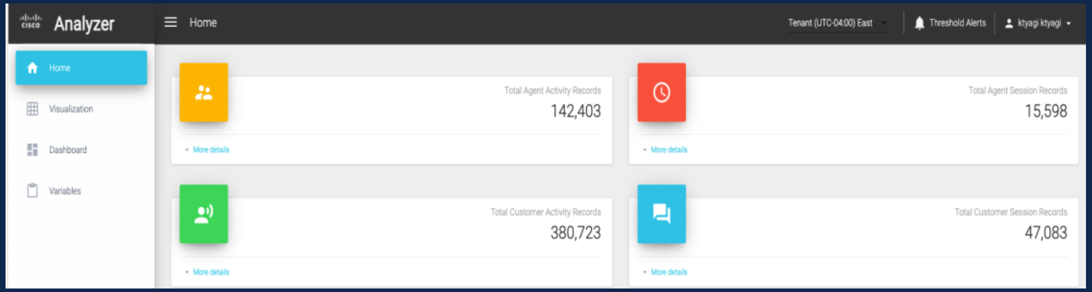
Analyzer User Interface

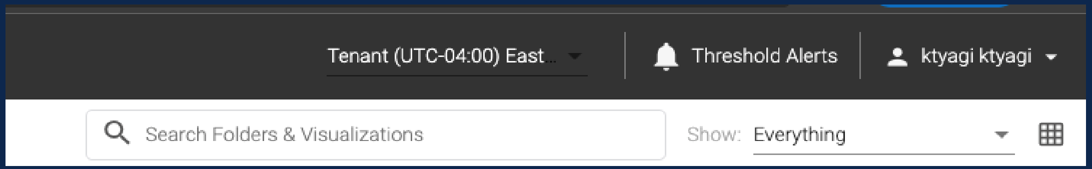


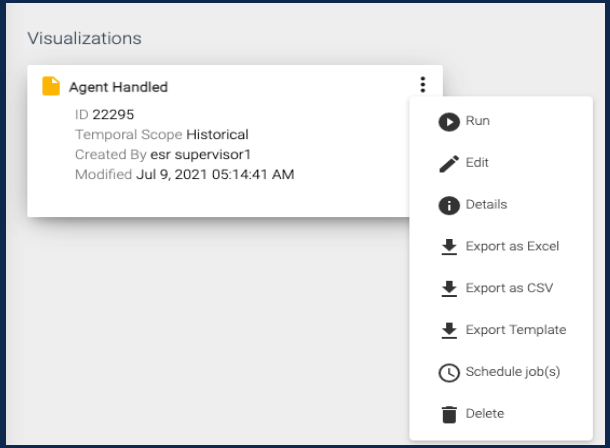
https://analyzer-v2.wxcc-us1.cisco.com/analyzer/home

- Accessible via Control Hub, Management Portal or directly from the URL.
- Time Zone support: Browser or Tenant
- Search Folders & Visualizations: Search via Report ID
  - Name is not unique for a report (only inside the same folder)
- Hover over a report and click on the 3 dots to see all the possible actions

Analyzer User Interface







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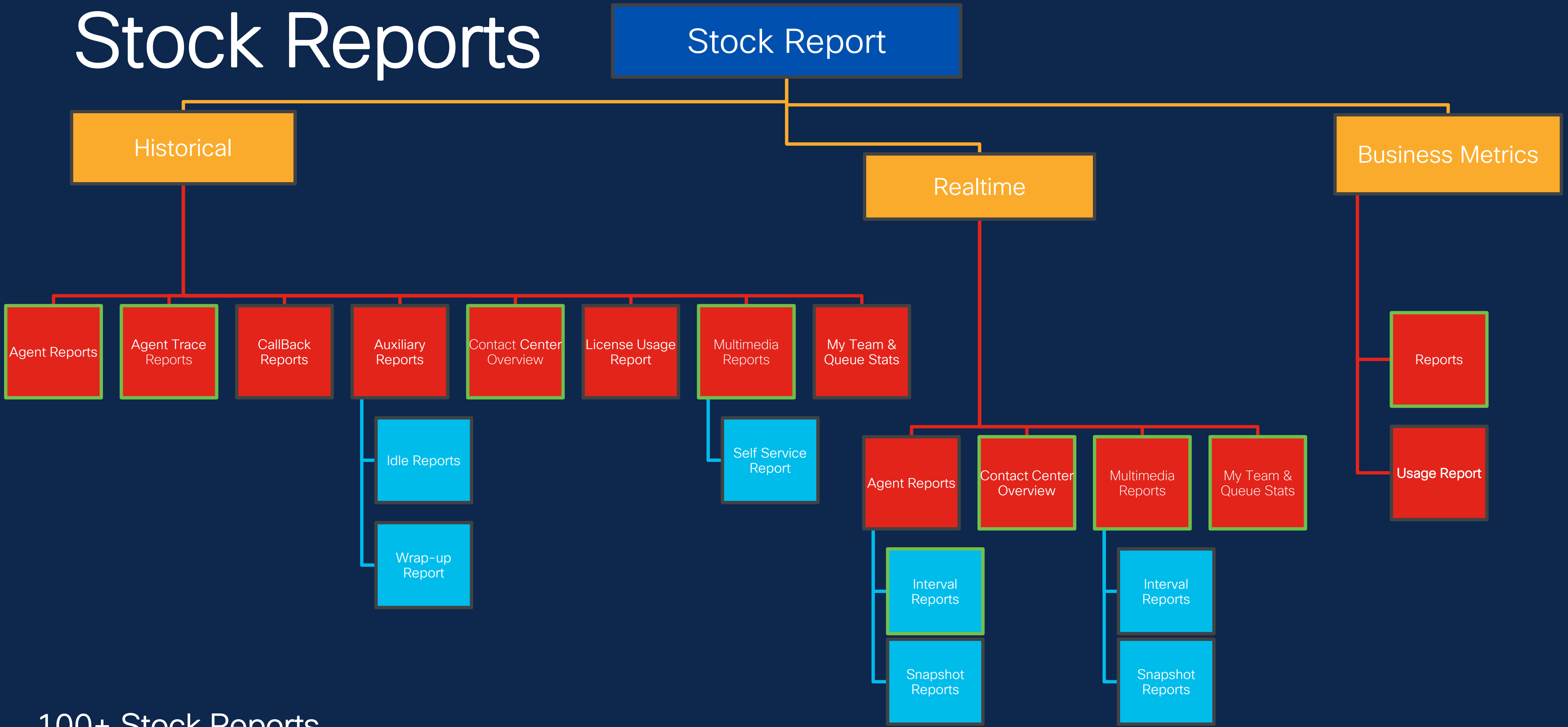
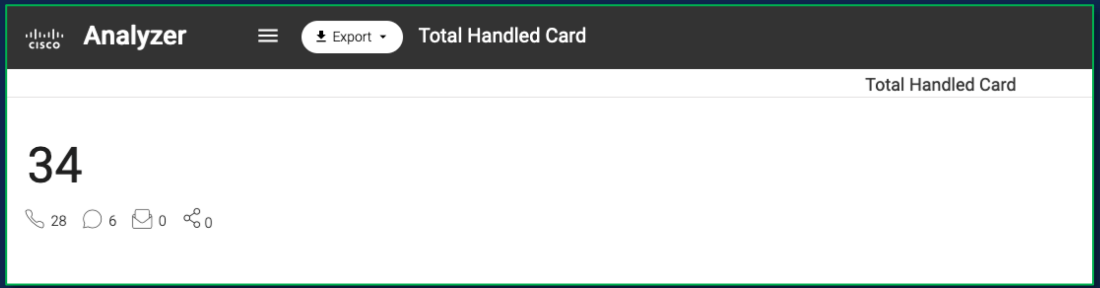
Stock Reports



100+ Stock Reports

Stock Reports (Simplified)

- Can be run directly or can be used as building blocks for your tailored custom visualizations.
- Use a simple search word (e.g. “Queue”, “abandoned”, “idle”)
- Many stock reports provide the same data with a different segmentation (e.g. “Site Idle Auxiliary”, “Team Idle Auxiliary”, “Agent Idle Auxiliary”)
- Card format stock reports



Stock Reports "Cheat Sheet"

Reference

- **Service Level & Queue Statistics →** CSQ All Fields Report (-1265), Contact Details in Queue (-1209), Contact Details in Queue – Today Real-Time (-1212), Queue Service Level Realtime (-152)
- **Self Service Statistics →** IVR & CVA Dialog Flow (-1251)
- **Abandoned Statistics →** Abandoned Contact Details (-1184), Queue Abandoned (-124), Abandoned Realtime (-148), Abandoned Call Detail Activity Report (-1258)
- **Agent/Team Status Tracking & Call Handling →** Agent Details (-100), Team (-105), Agent Trace (-108), Agent Interval Realtime (-1190)
- **Agent Not Ready Statistics →** Agent Idle Auxiliary (-109)
- **Callback Statistics →** Callback Report (-1249)
- **Troubleshooting Report (Call-By-Call) →** CSR Report – Yesterday (-1189)
- **More Queue Statistics →** Queue All Fields Report (-1268), Queue Activity by Queue (-1269)

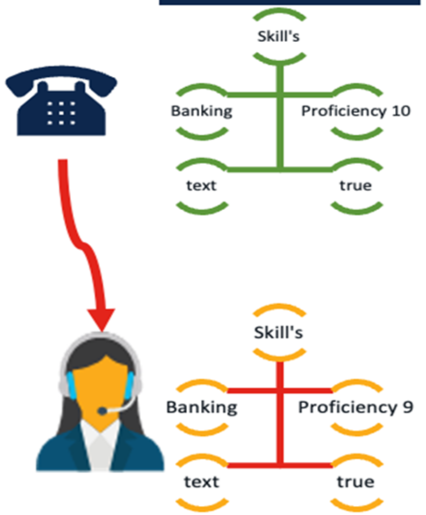
Skill-Based Reporting (SBR)

Reference

- Skill-Based Reporting provides insight on the assigned skills both for a contact as well as for an agent.
- From a call perspective, we are able to see both the skill requirements of the call and the skills of the agent that ultimately answered the call.
  - **CSR / CAR / Queue Record Variables**
    - Required Skills
    - Matched Skills
    - Skill Profile
- Similarly, we can see the skill profile & skills with which an agent logged in their shift:
  - **ASR / AAR Variables**
    - Skill Profiles
    - Skills

Required Skills	Matched Skills	Skill Profile	Call #
Loans=Auto loan (1)	Loans=Auto loan (1)	SkillProfile-GT1 (1)	2
OS-Expert=Linux (1)	OS-Expert=Linux (1)	SkillProfile-GT1 (1)	1

Call Skills

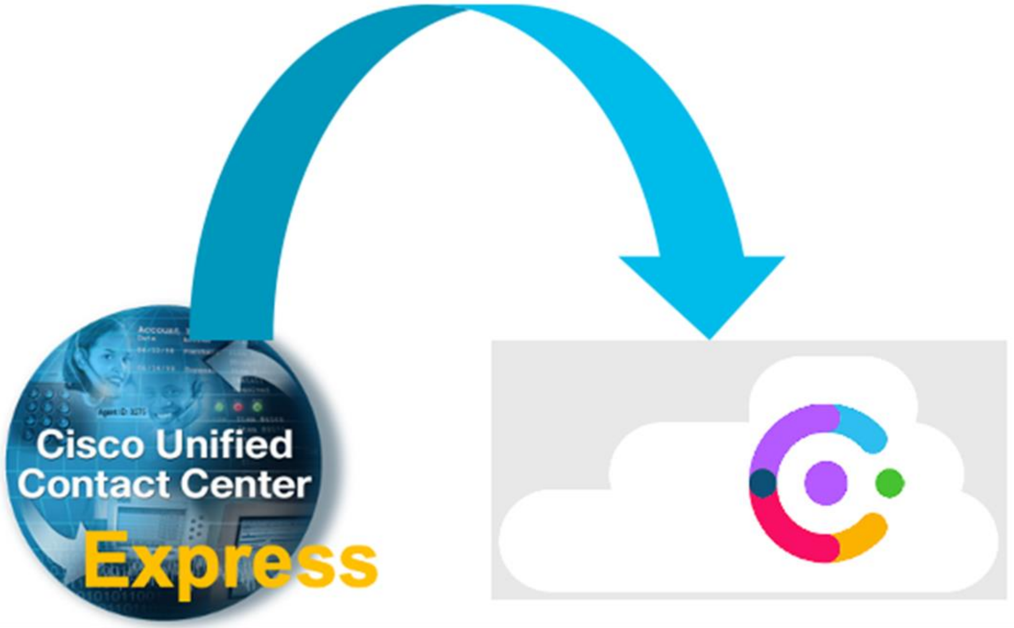


Agent Skills

Agent Skills	Skill Profile	Agent Name
BooleanSkill-Expert-LIC Policy=True, French=8, Text=Test123 (1)	GT2 (1)	Agent8 Chorus (1)
Chinese=7, English-GT=7, French-GT=7, Enum-GT="Loans, Sales", Loans=Auto loan, OS-Expert=Linux (1)	SkillProfile-GT1 (1)	chorous-org-qaus1 chorous-org-qaus11 (1)
Chinese=7, English-GT=7, French-GT=7, Enum-GT="Loans, Sales", OS-Expert=Linux (1)	SkillProfile-GT1 (1)	chorous-org-qaus1 chorous-org-qaus11 (1)

Transition Reports

- Cisco provides a smoother transition for UCCX customers with a set of stock reports that resemble the look & feel of major UCCX reports.
- In total, 9 stock reports are available:
  - Abandoned Call Detail Activity Report
  - Agent Call Summary Report
  - Agent Detail Report
  - Agent summary Report
  - Application Summary Report
  - CSQ Activity Report by Window Duration
  - CSQ Agent Summary Report
  - CSQ All fields Report
  - Multi Channel Agent Summary Report
- The reports are <u>now</u> enabled by default.



Callback Report

Reference

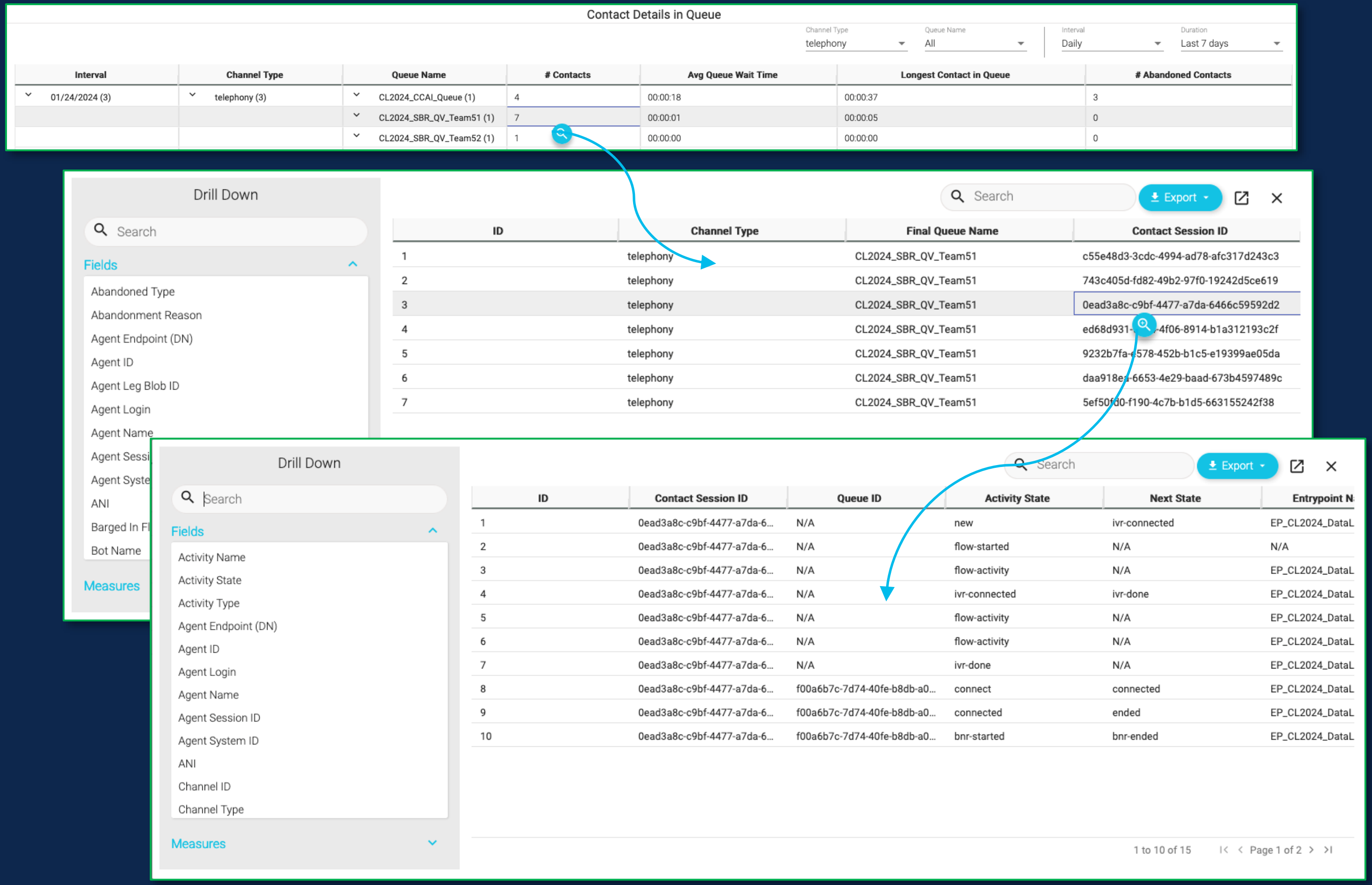
Queue Name	Callback Request Time	Callback Connected Time	Callback Num...	Agent Name	Team Name	Last Callback Status
chmouli-DD-Q	2021/01/20 13:29:23	2021/01/20 17:44:55	4699103588	chmouli chmouli	chmouli-team	Success
chmouli-DD-Q	2021/01/20 13:36:00	2021/01/20 17:46:30	4699103588	chmouli chmouli	chmouli-team	Success
chmouli-DD-Q	2021/01/20 13:40:36		4699103523	N/A	N/A	Not Processed
chmouli-DD-Q	2021/01/20 13:46:12	2021/01/20 17:47:16	4699103588	chmouli chmouli	chmouli-team	Success
chmouli-DD-Q	2021/01/20 13:48:53		469901254	N/A	N/A	Not Processed
chmouli-DD-Q	2021/01/20 13:50:50	2021/01/20 17:47:42	4699103588	chmouli chmouli	chmouli-team	Success
chmouli-DD-Q	2021/01/22 19:54:54	2021/01/22 19:55:22	4699103589	rakrish2 rakrish2	chmouli-team	Success
rkprabhu_q_voice	2021/01/23 21:21:45	2021/01/23 21:22:17	+14083214502	rkprabhu rkprabhu	rkprabhu_T1	Success

This report provides below details for last 7 day interval (CSR Value report)

- Queue Name
- Callback Request Time
- Callback Connected Time
- Agent Name
- Callback Number
- Last Callback Status

Drill-Down

- Allows expanding a specific value in the table to see all the records involved in the computation.
- Drilldown-ception is possible (drill-down inside a drill-down)
- After drill down, user can add additional columns for more insight by clicking the variables on the left.
- Great troubleshooting tool, two usual cases:
  - Drill-Down a count of contacts to the contacts that comprise it
  - Drill-Down a contact Session ID to see a call's full path

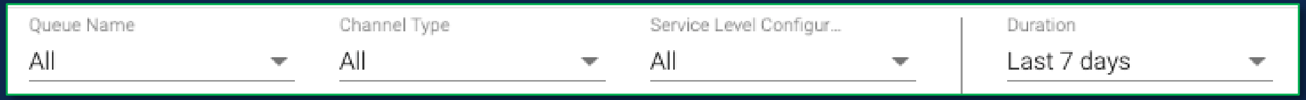


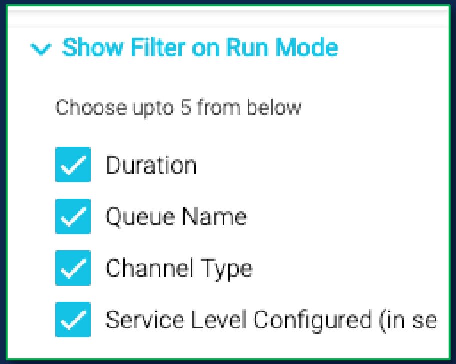
Run-Mode Filtering

Allows user to filter and visualize the data without editing the report, dynamically updating the report results upon selection.

You can only select the following as run-mode filters:

- Duration (available by default for all reports)
- All the variables added as Row Segment in that report.





Maximum of 5 filters can be applied.

Access Controls

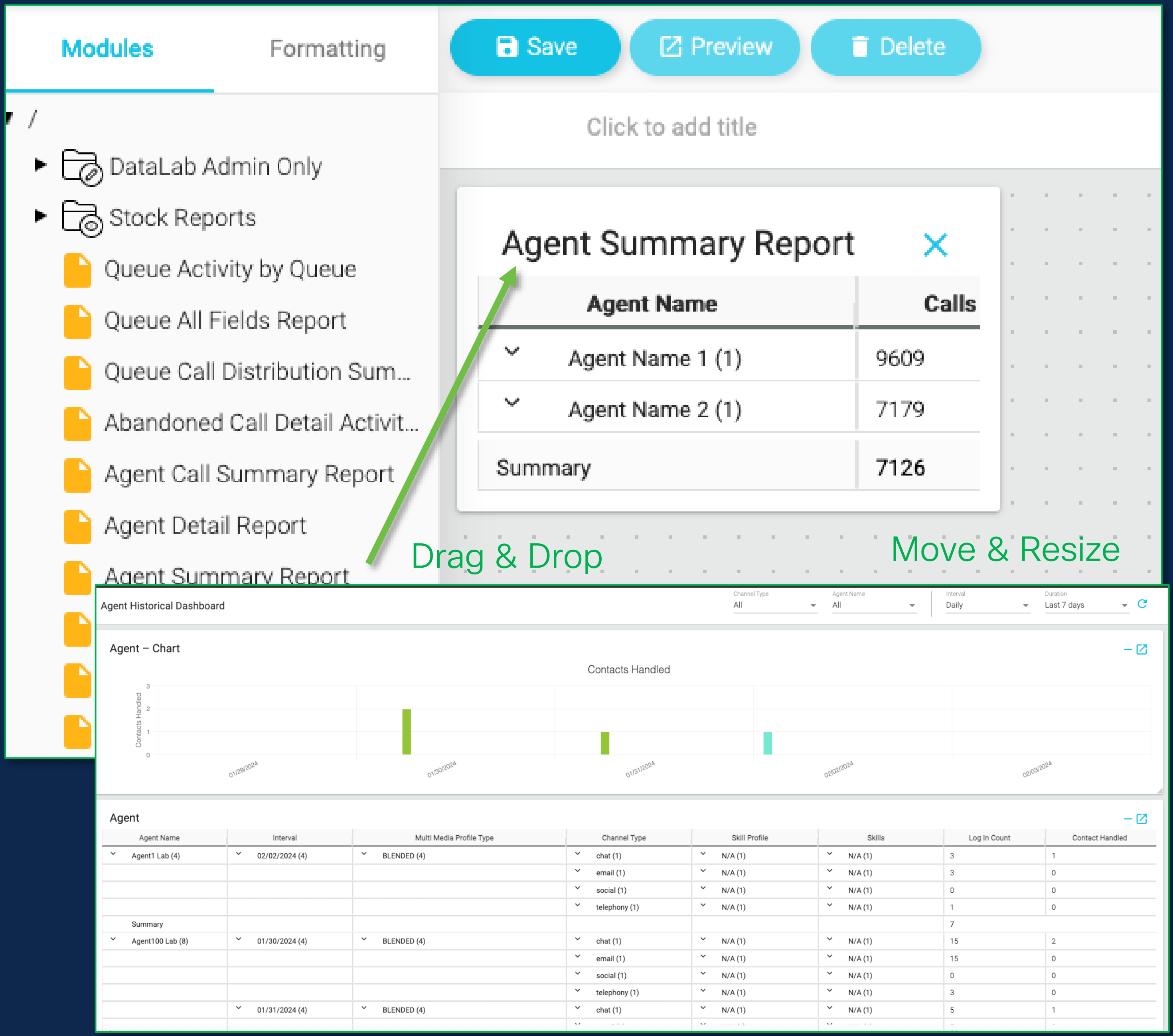
Reference

Complete Information on permissions and access controls can be found in the Analyzer User guide, under Introduction > Access Controls.

Resources	Roles	Restrictions
• APS Reports on the Agent Desktop • Management Portal Dashboard • Browser Links	Administrators and supervisors with Cisco Contact Center disabled or with no associated Agent Profiles	Restrictions applied are based on the User Profiles
• APS Reports on the Agent Desktop • Management Portal Dashboard • Browser Links	Administrators, supervisors with associated Agent Profiles and all agents	Restrictions applied for: • Entry Points are based on the User Profiles • Queues are based on the Agent Profiles • Sites are based on the Agent Settings • Teams are based on the Agent Profiles
• Analyzer Reports • Filters inside the Visualization create or edit page	All administrators and supervisors	Restrictions applied are based on the User Profiles

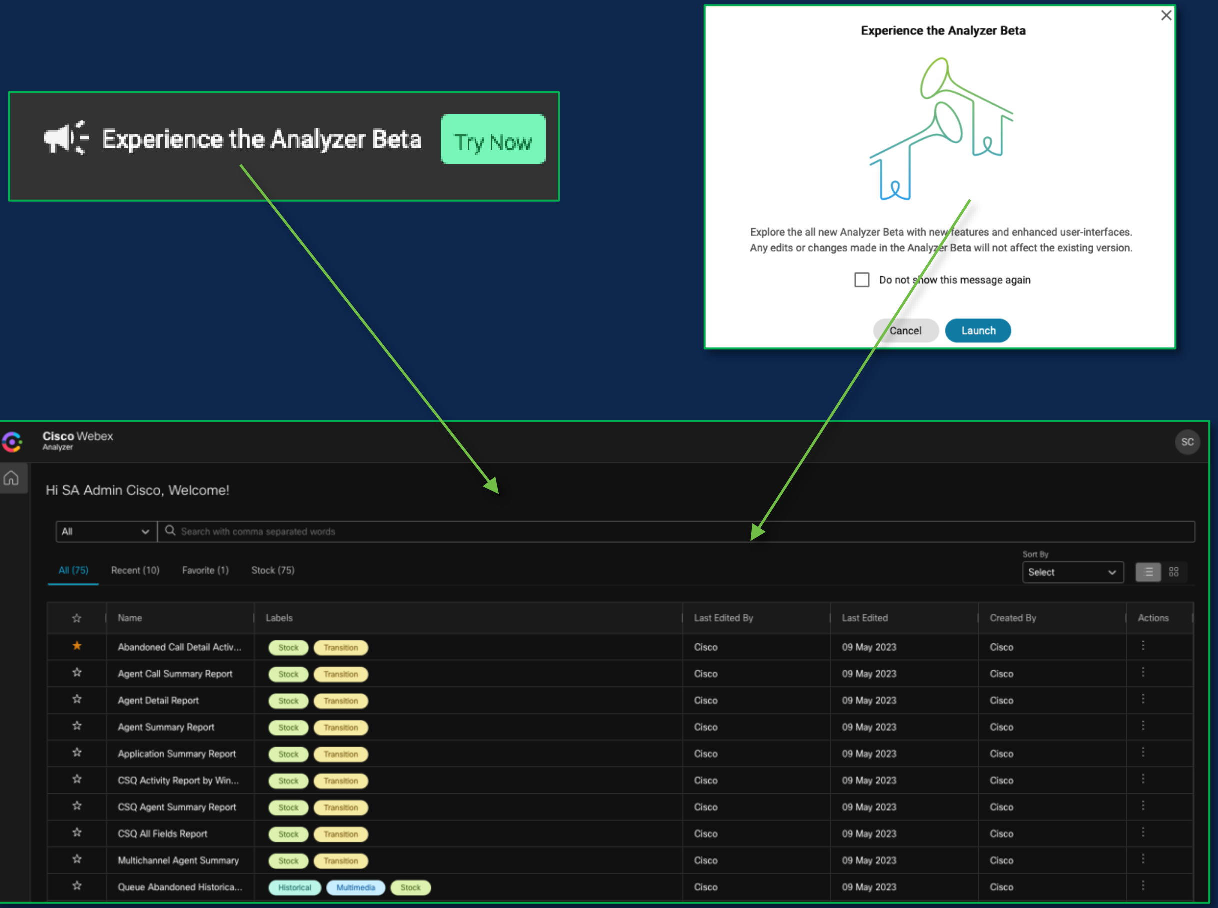
Dashboards

- Allows to add multiple visualizations under the same view.
- Users can combine reports of different type (historical/realtime, count/value based, different repositories).
- Run-mode filtering is possible and will be applied to all visualizations at the same time.



Analyzer Beta

- The future of Analyzer: A new look with enhanced capabilities and a more powerful backend architecture.
- New concepts are introduced:
  - All reports are treated as **widgets**
  - **Label** structure instead of folders
- Today, only stock Historical reports are available in Analyzer Beta, with more options coming soon.



Analyzer Beta – What's Next?

- Realtime Stock & Custom Dashboard Creation
- Quick & Easy Permissions assignment per dashboard
- Multi-Level Formulas
- Custom Card format Dashboard creation
- Colour Coding Thresholds

Processing the Data

Types of Reports

Historical / Realtime

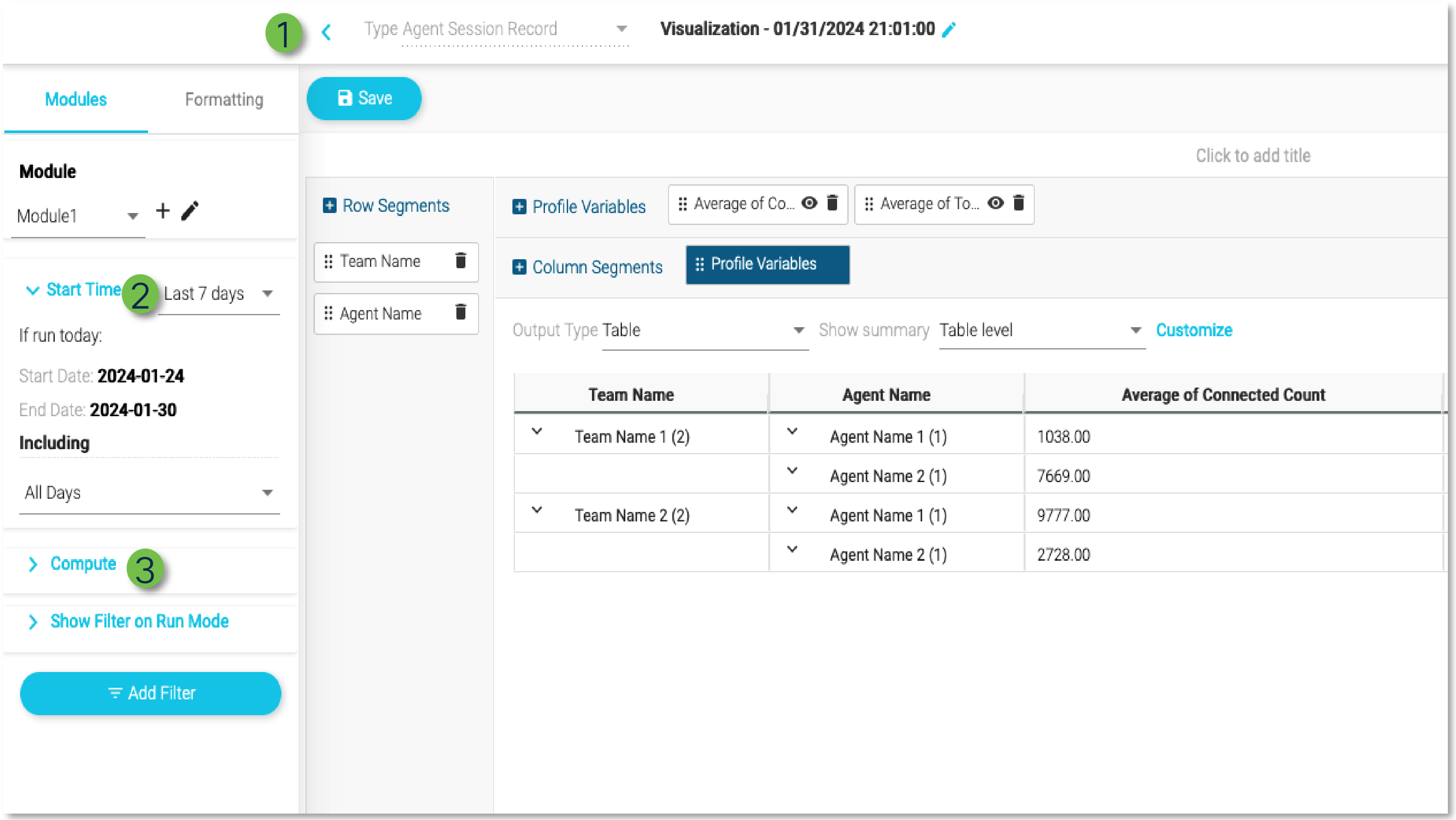
- **Historical** reports retrieve the data for a lengthy time range up to 12 months, within Last 13 months. e.g. **last 7 days.**
- **Realtime** reports provide a snapshot of the current status of the tenant looking back from a few minutes up to the start of the day. Realtime reports provide the option to refresh automatically every few seconds (min 5 seconds).

Count / Value Based

- **Count Based** reports provide aggregated data (e.g. count, sum, avg) of the requested events in the report *(e.g. # of Agents in available state)*
- **Value Based** reports provide raw data for each unique activity in the report *(e.g. Name of each agent in available state)*

*Note: Both the time period and the type of data in a report are defined at the start of its creation and **cannot** be changed afterwards.*

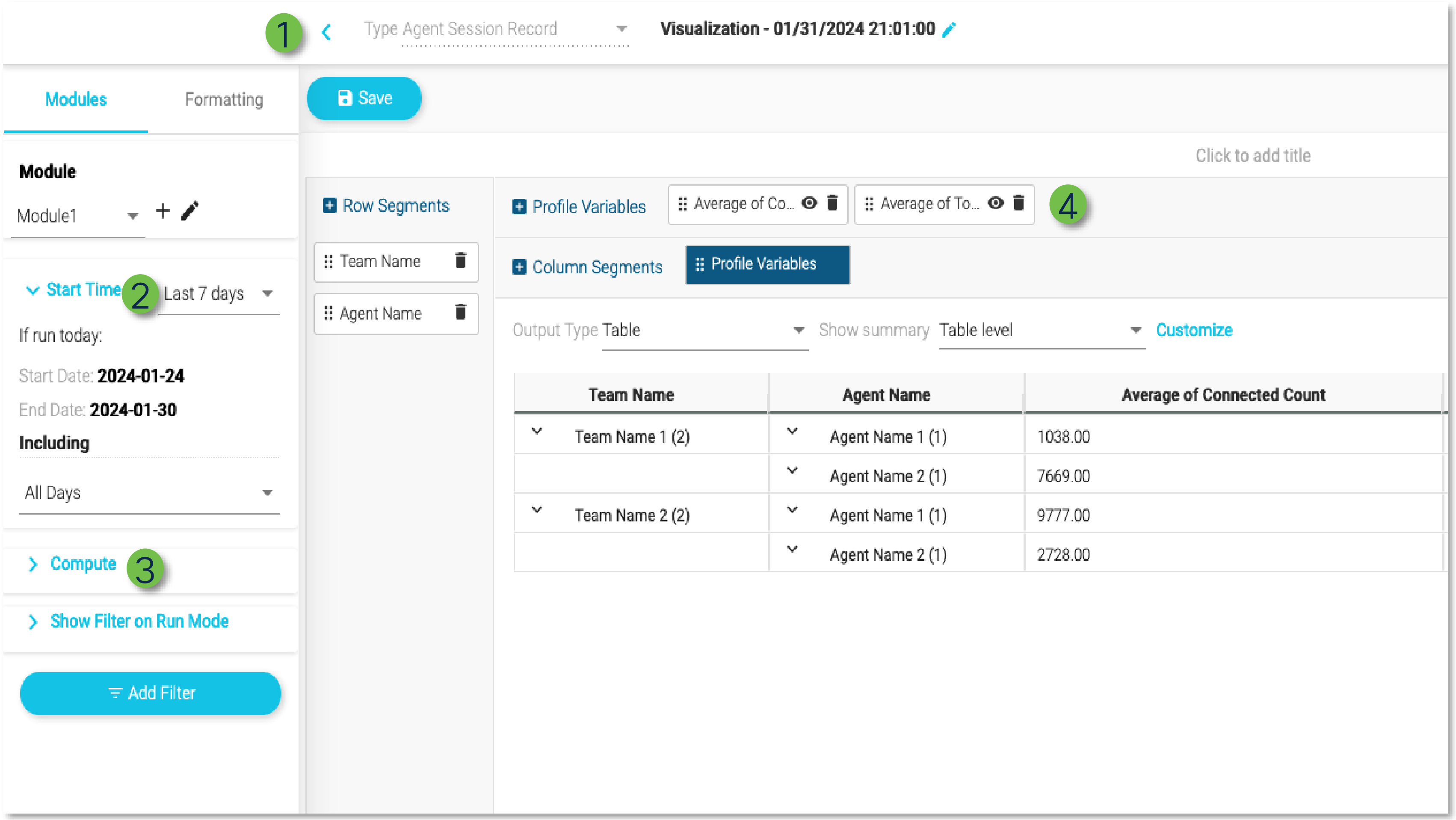
Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
3. Select Interval (Historical) or Duration & Refresh (Realtime)

Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
3. Select Interval (Historical) or Duration & Refresh (Realtime)

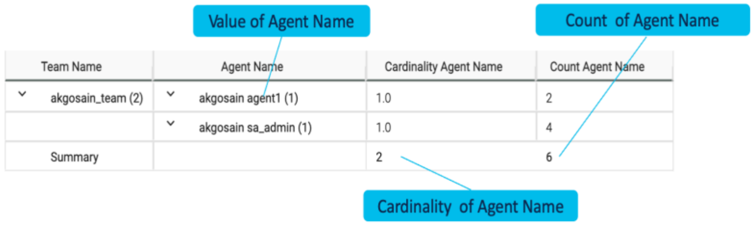
Define the Data Set

4. Choose the Profile Variables

Profile Variables: Visualization Building Blocks

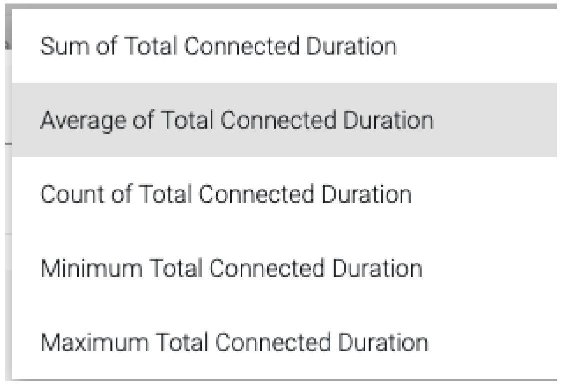
Field

- Textual value of a variable, e.g. Agent Name, Contact Session ID, Queue Name
- It can be:
  - Count: # of times the variable appears
  - Value: the actual value of the variable
  - Cardinality: Total Number of unique records of the variable



Measure

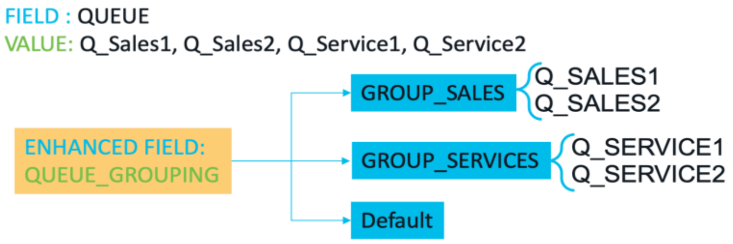
- Measures are computed values/aggregations (integer or decimal), e.g. Connected Duration, Hold Count
- It can be either the value or an arithmetic operation:
  - Sum
  - Average
  - Count
  - Value
  - Minimum
  - Maximum



Profile Variables: Visualization Building Blocks

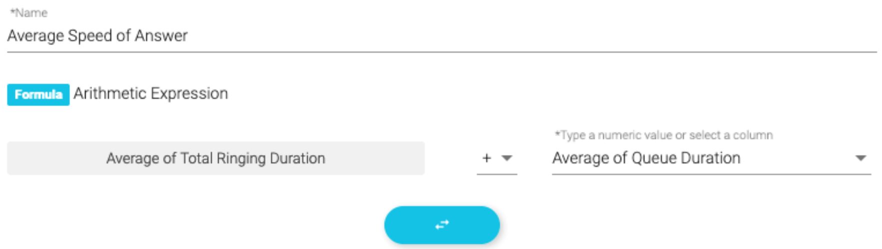
Enhanced Field

- Combine multiple values of a field in one or more groups.
- Enhanced Fields created in one report can be saved and re-used in other visualizations.



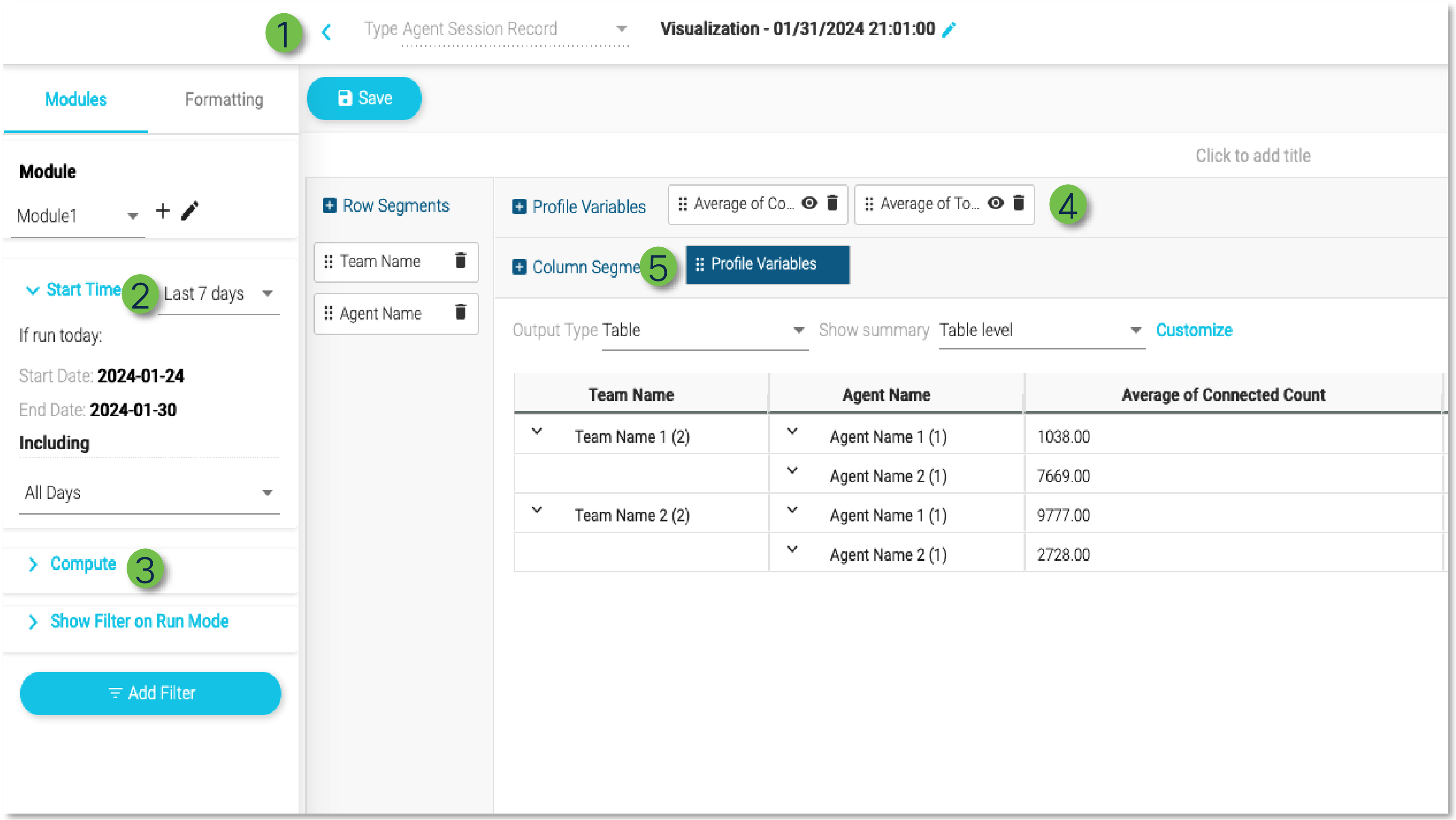
Formula

- Formulas can be created either from Fields or Measures.
- Arithmetic operations supported are +, -, × or ÷.
- Example: Average Speed of Answer = Average of Queue Duration + Average of Ringing Duration



** Multi-variable formulas need to be created step-by-step, e.g. $x=a+b+c$, first we make $x_1=a+b$ and then $x = x_1 + c$**

Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
3. Select Interval (Historical) or Duration & Refresh (Realtime)

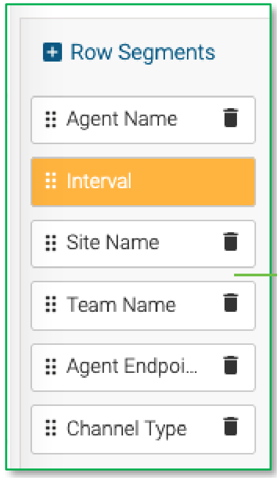
Define the Data Set

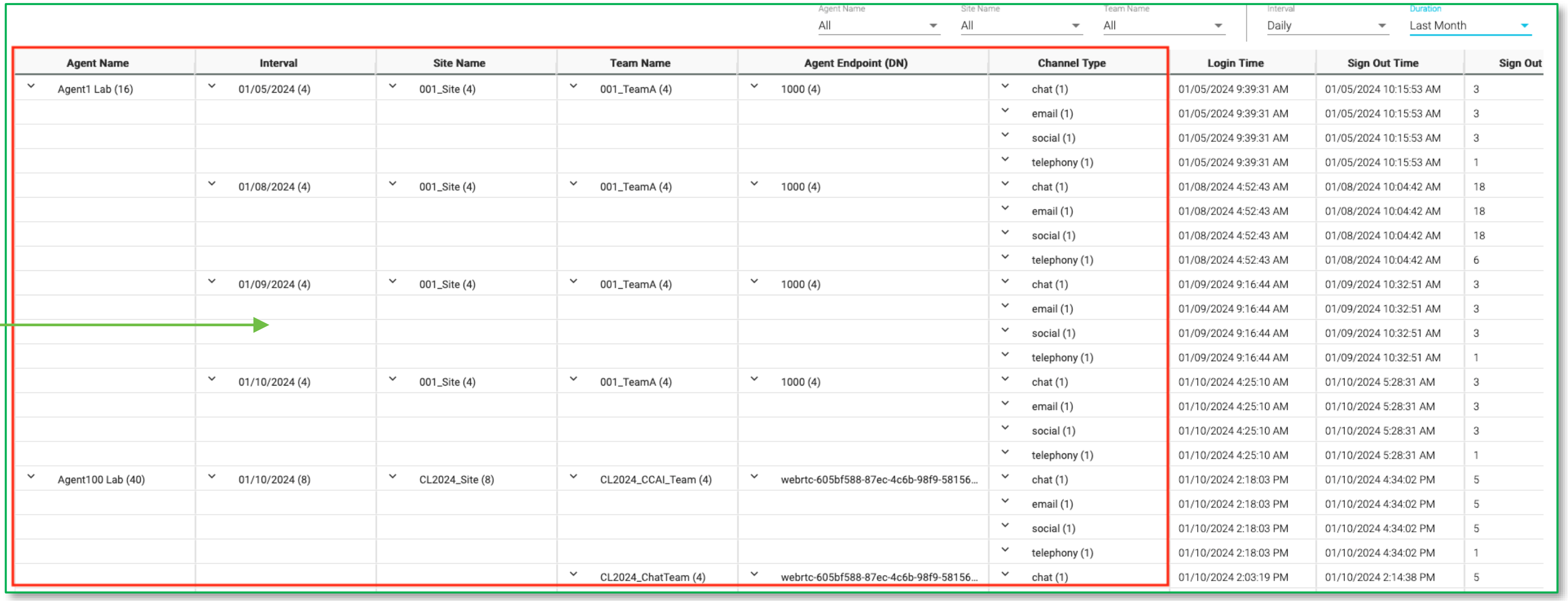
4. Choose the Profile Variables
5. Optionally, add segmentation

Row / Column Segments

- Segments allow to logically group the data under specific **Field only** variables.
  - Order of segments during edit mode is <u>important</u>.
  - **Row Segments** are used more commonly compared to Column Segments.

  - If we add an Interval to our visualization, this by default also becomes a row or column segment.

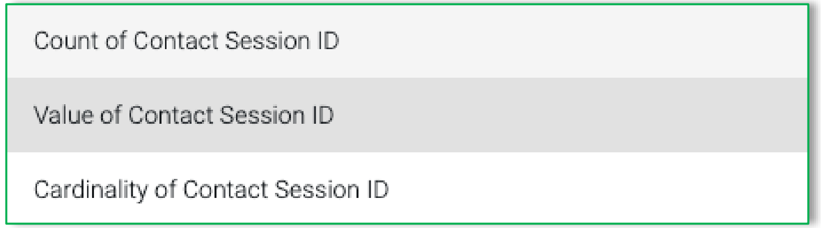


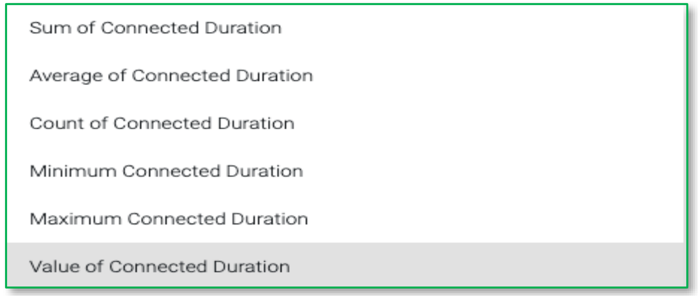

Agent Name: All
Site Name: All
Team Name: All
Interval: Daily
Duration: Last Month

Agent Name	Interval	Site Name	Team Name	Agent Endpoint (DN)	Channel Type	Login Time	Sign Out Time	Sign Out
Agent1 Lab (16)	01/05/2024 (4)	001_Site (4)	001_TeamA (4)	1000 (4)	chat (1)	01/05/2024 9:39:31 AM	01/05/2024 10:15:53 AM	3
					email (1)	01/05/2024 9:39:31 AM	01/05/2024 10:15:53 AM	3
					social (1)	01/05/2024 9:39:31 AM	01/05/2024 10:15:53 AM	3
					telephony (1)	01/05/2024 9:39:31 AM	01/05/2024 10:15:53 AM	1
	01/08/2024 (4)	001_Site (4)	001_TeamA (4)	1000 (4)	chat (1)	01/08/2024 4:52:43 AM	01/08/2024 10:04:42 AM	18
					email (1)	01/08/2024 4:52:43 AM	01/08/2024 10:04:42 AM	18
					social (1)	01/08/2024 4:52:43 AM	01/08/2024 10:04:42 AM	18
					telephony (1)	01/08/2024 4:52:43 AM	01/08/2024 10:04:42 AM	6
	01/09/2024 (4)	001_Site (4)	001_TeamA (4)	1000 (4)	chat (1)	01/09/2024 9:16:44 AM	01/09/2024 10:32:51 AM	3
					email (1)	01/09/2024 9:16:44 AM	01/09/2024 10:32:51 AM	3
					social (1)	01/09/2024 9:16:44 AM	01/09/2024 10:32:51 AM	3
					telephony (1)	01/09/2024 9:16:44 AM	01/09/2024 10:32:51 AM	1
	01/10/2024 (4)	001_Site (4)	001_TeamA (4)	1000 (4)	chat (1)	01/10/2024 4:25:10 AM	01/10/2024 5:28:31 AM	3
					email (1)	01/10/2024 4:25:10 AM	01/10/2024 5:28:31 AM	3
					social (1)	01/10/2024 4:25:10 AM	01/10/2024 5:28:31 AM	3
					telephony (1)	01/10/2024 4:25:10 AM	01/10/2024 5:28:31 AM	1
Agent100 Lab (40)	01/10/2024 (8)	CL2024_Site (8)	CL2024_CCAI_Team (4)	webrtc-605bf588-87ec-4c6b-98f9-58156...	chat (1)	01/10/2024 2:18:03 PM	01/10/2024 4:34:02 PM	5
					email (1)	01/10/2024 2:18:03 PM	01/10/2024 4:34:02 PM	5
					social (1)	01/10/2024 2:18:03 PM	01/10/2024 4:34:02 PM	5
					telephony (1)	01/10/2024 2:18:03 PM	01/10/2024 4:34:02 PM	1
			CL2024_ChatTeam (4)	webrtc-605bf588-87ec-4c6b-98f9-58156...	chat (1)	01/10/2024 2:03:19 PM	01/10/2024 2:14:38 PM	5

Count or Value?

- The most common source of confusion for report users -> ”Do I use a Count or Value based variable?”
  - By **Count**, we mean either <u>Count</u> or <u>Cardinality</u> for **Field** variables or the <u>arithmetic operations</u> (Count, Sum, Avg, Min, Max) for **Measure** variables.





Ask Yourself:

- Do I want to see aggregations of multiple entities -> **Count based** (e.g. # of Calls handled by a team, # of different Agents that handled a call for a specific Queue)
- Do I want to see the raw data (each in a separate row) for each unique call or agent separately -> **Value based** (e.g. all session IDs of the calls handled, the name of each agent that handled a call for a specific queue)

Count or Value?

Count of Final Queue Name	Count of Contact Session ID
26	62

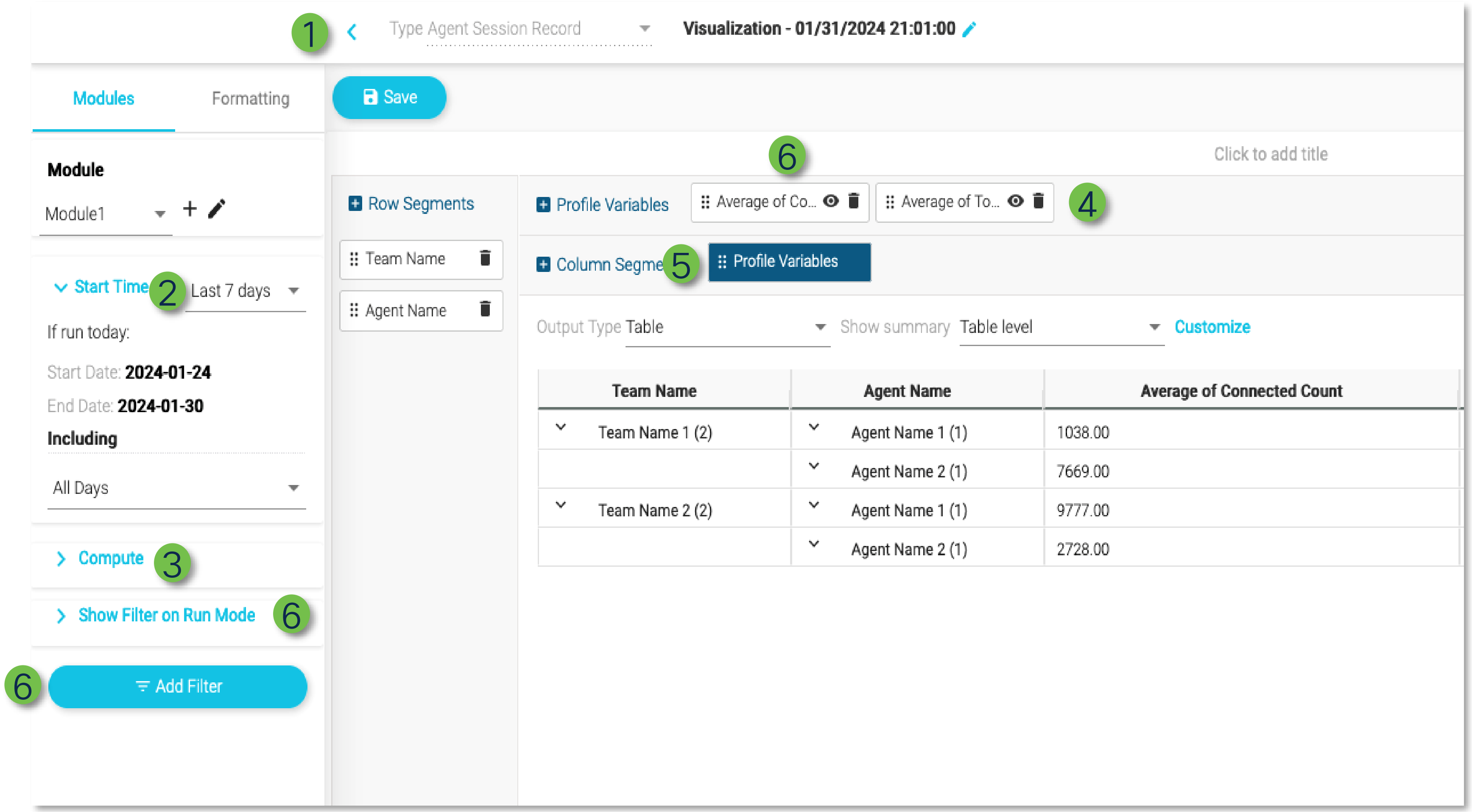
Value of Queue Name	Value of Contact Session ID
CL2024_Queue1	29eb9d9f-04d0-42b0-8462-edb62ee22dc2
CL2024_SBR_QV_Team51	8fc21eab-2d61-49c7-b251-0502547e5dc2
CL2024_SBR_QV_Team51	53af22b6-a6b6-431a-bda7-bd5d50ec9f0a
CL2024_SBR_QV_Team51	79ea065d-e412-4908-b106-e585c0a46b36
CL2024_SBR_QV_Team51	947cc7b3-06ba-484a-8fc2-08c489324fd6
CL2024_SBR_QV_Team51	b3b89fc1-4ac9-461e-9230-7edfb804d366
CL2024_SBR_QV_Team51	d8f6ec43-8768-4936-8554-1c79971a8603
CL2024_SBR_QV_Team51	d3614edf-4d3a-4ede-a8af-722521e25774
CL2024_SBR_QV_Team51	b0db5b47-eacf-444d-aa7f-b25afb45baae
CL2024_Data_ChatQueue	c2cbc415-1227-4265-9c90-815b8e98bf16
CL2024_SBR_QV_Team52	fafac343-ed0b-4c82-aa94-186f03399999

- Count based reports will provide the total tenant's values unless segmented.
  - Segments allow us to combine value fields (e.g. Queue Name) with aggregation statistics.
  - We <u>cannot</u> use Segments in value-based reports.

Note: A report is considered count or value based on what we selected on the 1st profile variable we added. After that, all profile variables we try to add will only show Count or Value options respectively.

Final Queue Name	Count of Contact Session ID
CL2024_CCAI_Queue (1)	5
CL2024_ChatQ (1)	3
CL2024_Data_ChatQueue (1)	1
CL2024_SBR_QV_Team51 (1)	13
CL_DEMO (1)	4
N/A (1)	36
Summary	62

Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
3. Select Interval (Historical) or Duration & Refresh (Realtime)

Define the Data Set

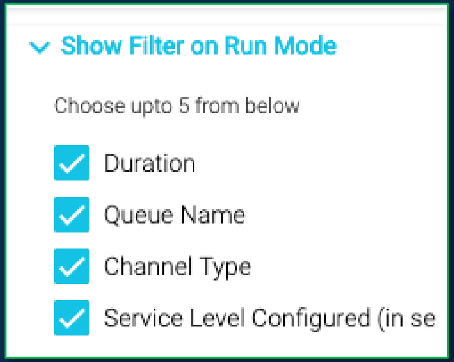
4. Choose the Profile Variables
5. Optionally, add segmentation
6. Optionally, create filters

Filters

- There are 3 different places we can setup a filter inside a visualization.

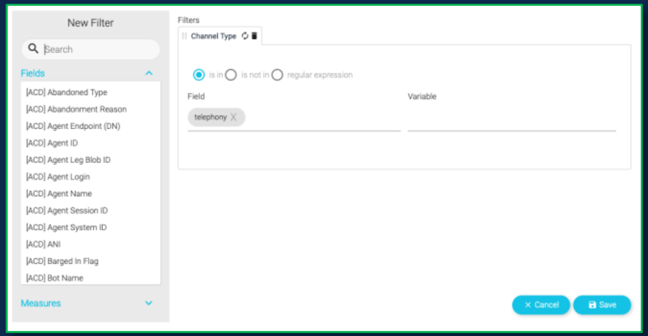
Run-Mode Filtering

- Set in “Edit Mode”, can be Duration or any Row Segment (up to 5).
- It can be updated dynamically during report execution.



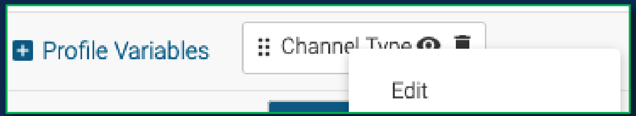
Report Filter

- When set, it applies for the whole report.
- It can be inclusive (**is in**), exclusive (is not in), an operation (>, =, !=, between) or a RegEx.



Column Filter

- It is configured the same way as a Report Filter, but it only applies to a specific column.
- It is configured by right-clicking on a variable and selecting “Edit”.



Reference

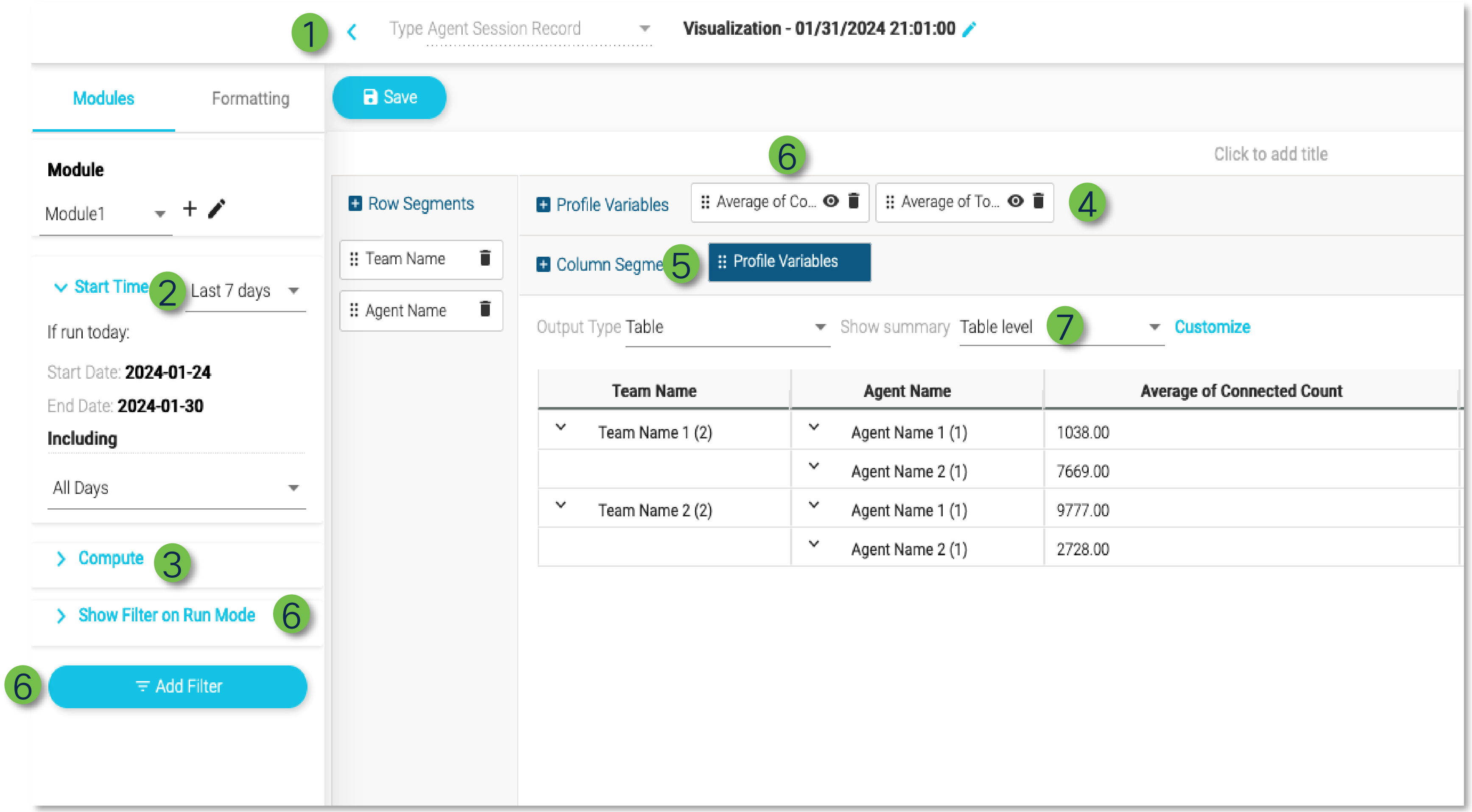
The Power of RegEx

- **Regular Expression (RegEx)** is a sequence of characters that specifies a match pattern in text.
  - For example, asterisk "." is used to match all possible characters.
  - Thus, if I used RegEx string *StudentID..* to match a text, I would match all strings like **StudentID51**, **StudentID52**, **StudentID53** etc (but not StudentID100 for example, as it has more than 2 characters).

- As filters in Webex CC Analyzer allow to use RegEx, we can create powerful generic filters. Some common use cases include:

1. .* -> This filter specifies that I want to match any character (".") infinite times ("*"). Basically, as this filter matches all strings, it is a great way to filter out N/A (empty) results in a report.
   - For example, if we use ".*" as filter in **Queue Name** variable, it will return all contacts that had a queue assigned (so not the calls that ended before reaching queue).
2. ((31)|(32)).* -> This filter specifies that I want to match any string which starts with 31 or ("|") 32 and then can have an infinite number of characters. RegEx allows us to use this OR operator to match multiple scenarios in a single pattern.
   - With this example, we can filter out all ANIs that come from the Netherlands (+31 Country Code) or Belgium (+32 Country Code).
3. .*Sales.* -> Similarily with example 2, we can also use any string between .* to find all the values that include the word "Sales" in them, for example if we want to fetch all the Sales teams.

Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
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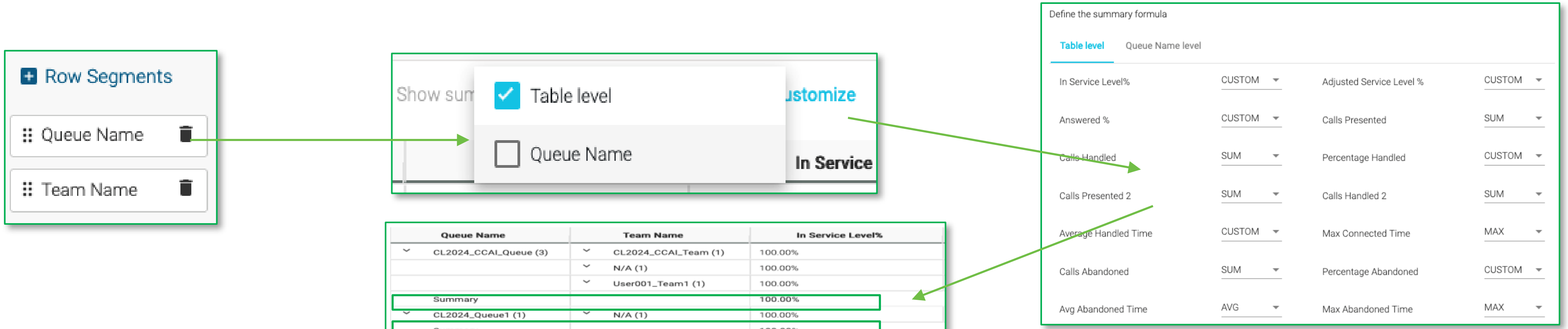
Define the Data Set

4. Choose the Profile Variables
5. Optionally, add segmentation
6. Optionally, create filters
7. Optionally, customize report summary

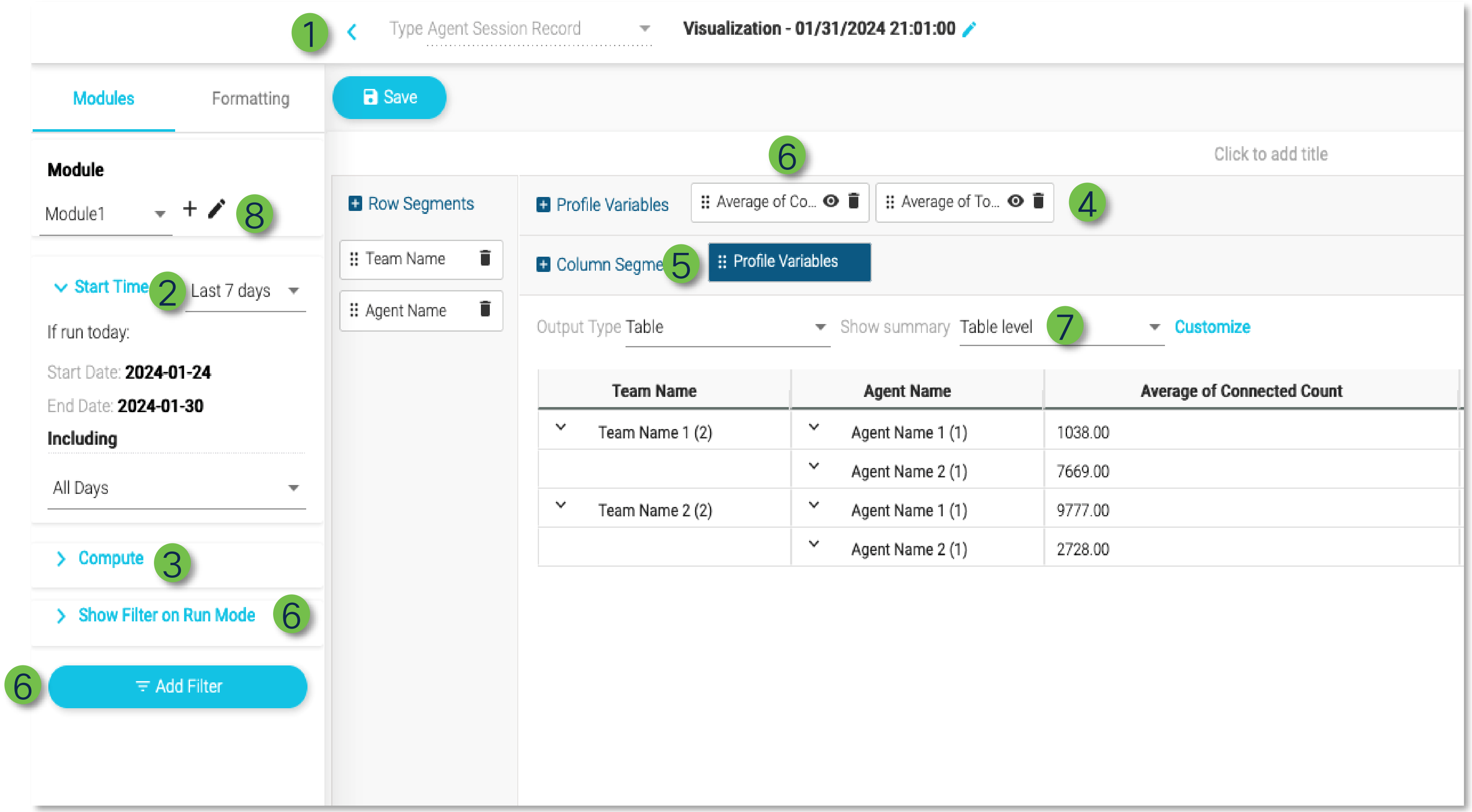
Customize Report Summary

- Report Summary allows us to define the formula used to summarize the results of a specific column in a report. Report Summary is available on:
  - Table Level (for all Reports)
  - Top-Level Row Segment (for reports with at least 2 Row Segments)



Queue Name	Team Name	In Service Level%
CL2024_CCAI_Queue (3)	CL2024_CCAI_Team (1)	100.00%
	N/A (1)	100.00%
	User001_Team1 (1)	100.00%
Summary		100.00%
CL2024_Queue1 (1)	N/A (1)	100.00%
Summary		100.00%
CL2024_SBR_QV_Team5...	CL2024_Data_Team51 (1)	92.31%
	N/A (1)	100.00%
Summary		96.15%
CL2024_SBR_QV_Team5...	CL2024_Data_Team52 (1)	100.00%
Summary		100.00%
CL_DEMO (1)	CL2024_Team2 (1)	75.00%
Summary		75.00%
Summary		93.02%

Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
3. Select Interval (Historical) or Duration & Refresh (Realtime)

Define the Data Set

4. Choose the Profile Variables
5. Optionally, add segmentation
6. Optionally, create filters
7. Optionally, customize report summary
8. Optionally, you can create multiple modules

Compound Visualizations (Modules)

- A compound visualization (Module) allows users to have different views for the same visualization.
- Each module can have differing date ranges, intervals, and filters.
- Compound visualizations cannot be scheduled or exported.

CSQ All Fields

	Last Week				Last Month			
Queue Name	In Service Level%	Calls Presented	Calls Handled	Percentage Handled	In Service Level%	Calls Presented	Calls Handled	Percentage Ha
CL2024_CCAI_Queue (1)	100.00%	9	4	44.44%	100.00%	23	11	47.83%
CL2024_Queue1 (1)	100.00%	1	0	0.00%	100.00%	5	0	0.00%
CL2024_SBR_QV_Team5...	92.86%	28	6	21.43%	92.86%	28	6	21.43%
CL2024_SBR_QV_Team5...	100.00%	1	0	0.00%	100.00%	1	0	0.00%
CL_DEMO (1)	75.00%	4	1	25.00%	94.44%	36	8	22.22%
CL_Outdial_Queue (1)					50.00%	2	0	0.00%
User33_VoiceQueue (1)					80.00%	10	0	0.00%

Module 1

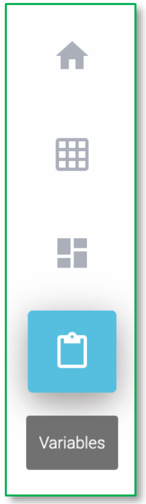
Module 2

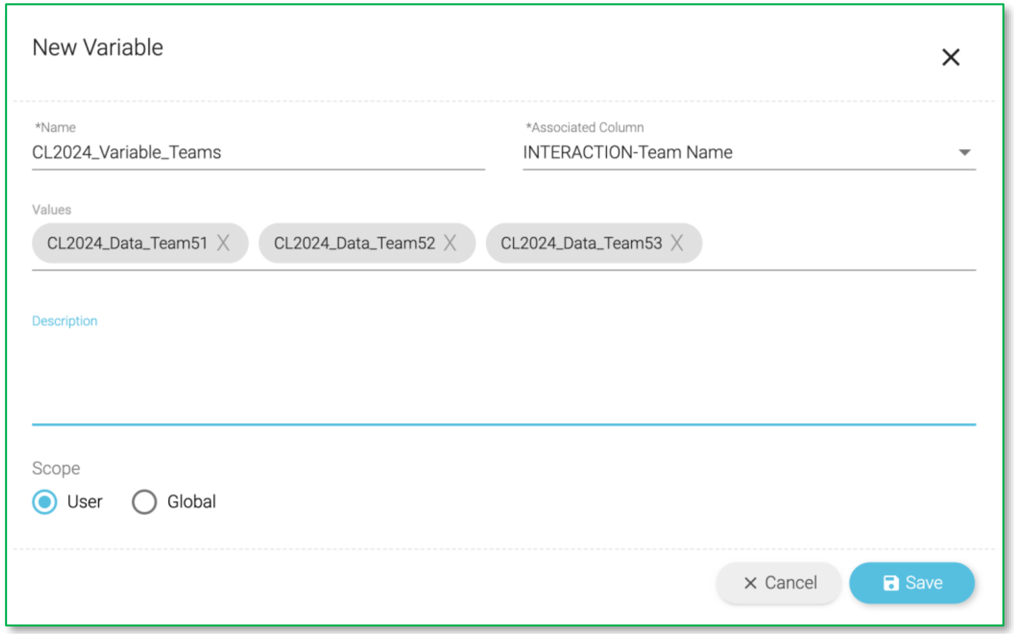
Analyzer Variables Tab

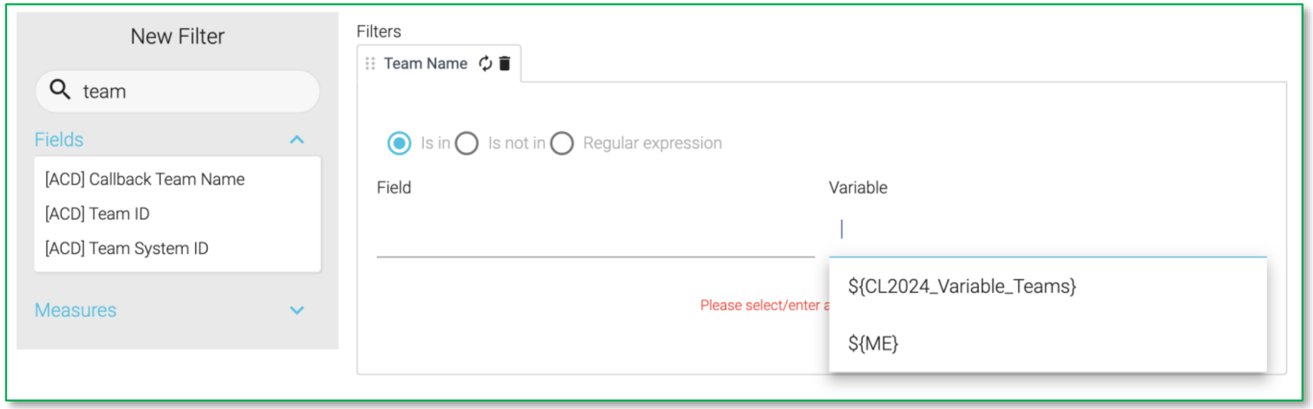
- Not the variables we have talked about so far!

- Variables tab allows to group & create a predefined set of values, that can then be used in report filters.

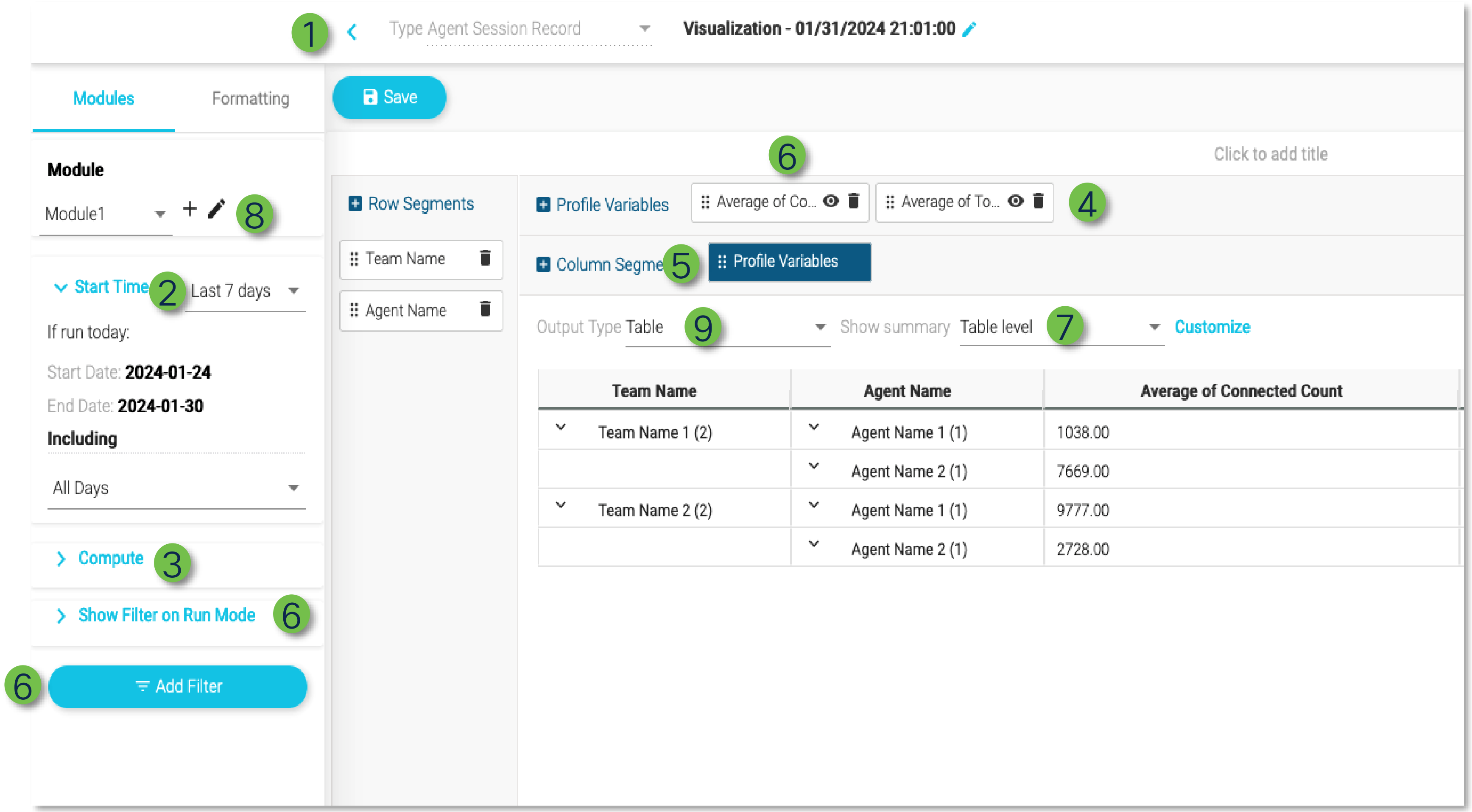
- We can define the scope of these variables:
    - **USER**: Only to be used by the creator
    - **GLOBAL**: Available across the organization







Anatomy of a Visualization



Visualization Scope & View

1. Select the repository
2. Select time period (Realtime/Historical)
3. Select Interval (Historical)
   or
   Duration & Refresh (Realtime)

Define the Data Set

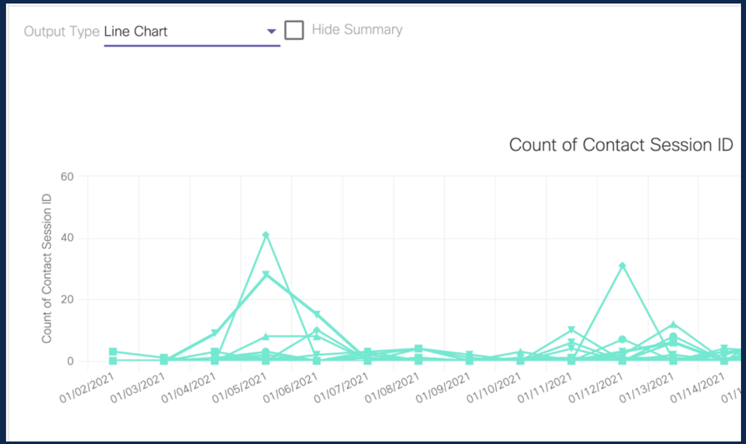
4. Choose the Profile Variables
5. Optionally, add segmentation
6. Optionally, create filters
7. Optionally, customize report summary
8. Optionally, you can create multiple modules

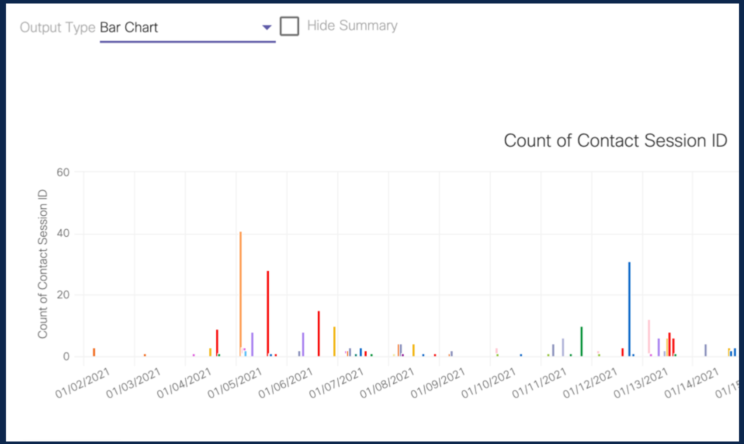
Define the Data Output

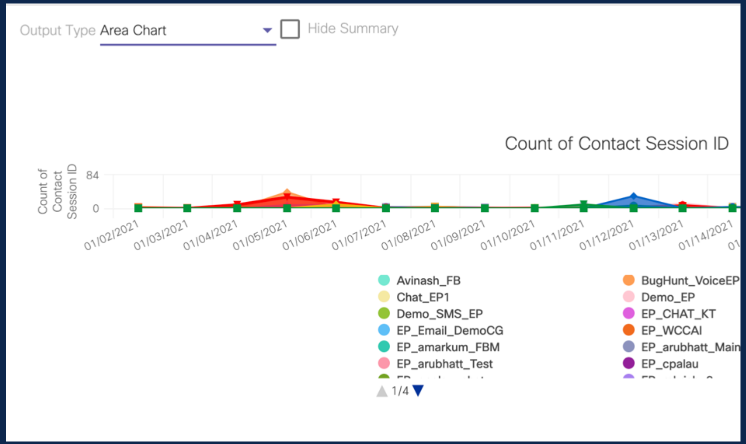
9. Select the Data Output format

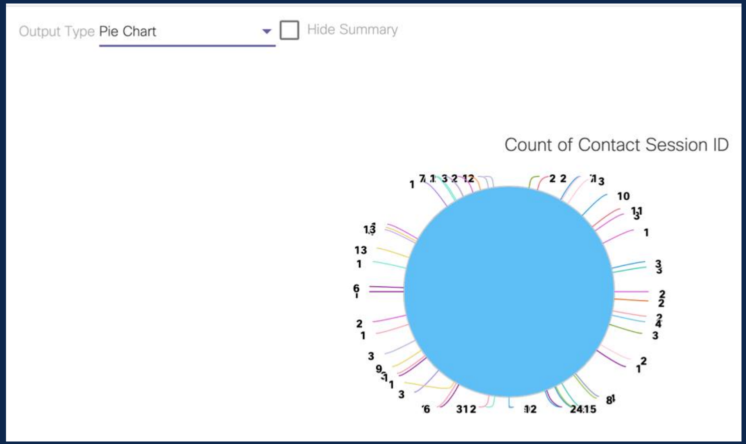
Visualizing the Data

Custom Visualization Output Types









Supported Data Output Types*:

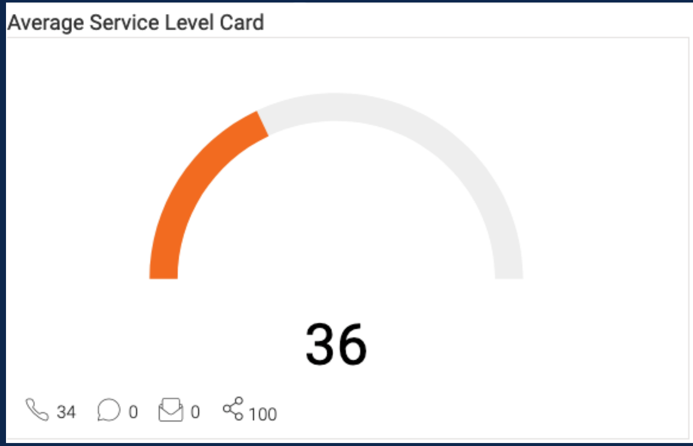
1. Table **(Default View)**
2. Heat Map
3. Row Heat Map
4. Column Heat Map
5. Line Chart
6. Bar Chart
7. Area Chart
8. Pie Chart
9. Sparkline Chart

* Not all reports are –by default– eligible for all output types (e.g. may require row/column segments).

Stock Visualization Output Types

Table/Grid view is the primary output type for the majority of stock reports. However, there are <u>some output types that are only available in stock reports today</u>.

1. Cards are the second most common type of stock reports. Custom cards are <u>not</u> an option today but they are a future enhancement coming in Analyzer Beta.



2. There are some report output types that are hardcoded in Analyzer and are available in customization (e.g. Customer Journey, Usage Report)

Customer Journey Sankey Chart

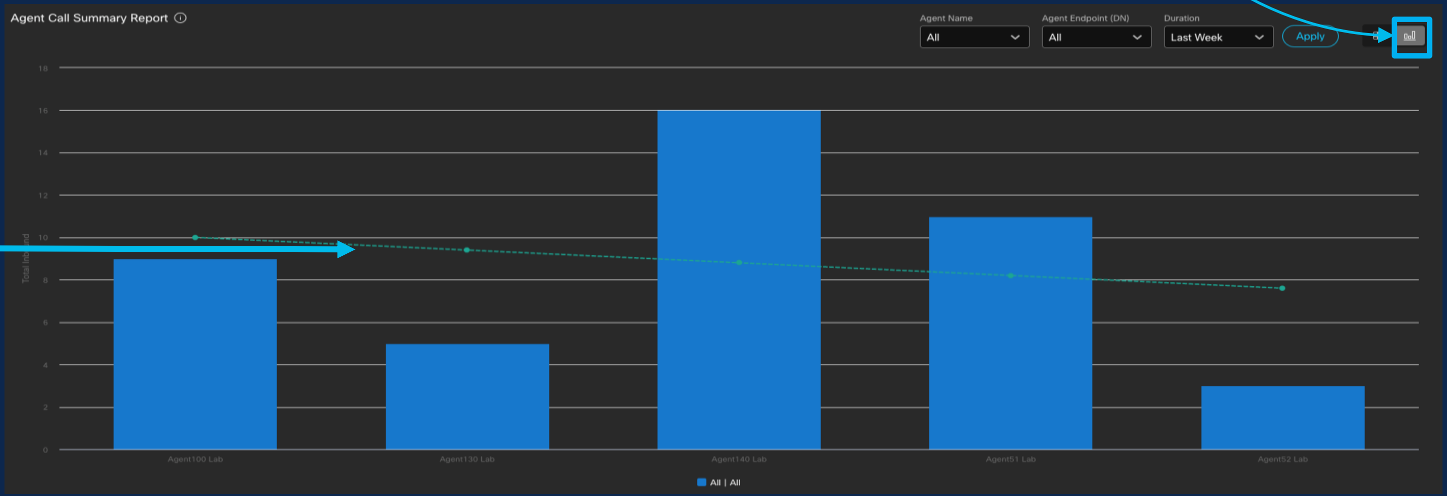
Analyzer Beta Output Types

For the majority of its reports, Analyzer Beta allows for a quick switch options between the usual Table view and a Chart View.

Agent Call Summary Report

Agent Name: All | Agent Endpoint (DN): All | Duration: Last Week | Apply

Agent Name	Agent Endpoi...	Total Inbound	Avg Talk Tim...	Avg Hold Tim...	Avg Work Ti...	Outbound Calls	Avg Call Tim...	Max Call Tim...	Transfer In	Transfer Out	Conference
Agent1... (1)	webrtc-... (1)	9	00:00:43	00:00:00	00:00:03	0	00:00:00	00:01:56	0	0	0
Agent1... (1)	webrtc-... (1)	5	00:00:13	00:00:00	00:00:07	12	00:00:09	00:00:31	0	0	0
Agent1... (1)	webrtc-... (1)	16	00:00:40	00:00:00	00:11:03	15	00:00:52	00:03:21	0	0	0
Agent5... (2)	NA (1)	1	00:00:00	00:00:00	00:00:00	0	00:00:00	00:00:00	0	0	0
	webrtc-... (1)	10	00:00:21	00:00:13	00:00:19	0	00:00:00	00:01:48	1	1	1
Agent5... (2)	NA (1)	1	00:00:00	00:00:00	00:00:00	0	00:00:00	00:00:00	0	0	0
	webrtc-... (1)	2	00:02:10	00:00:35	00:00:03	0	00:00:00	00:03:46	0	0	2



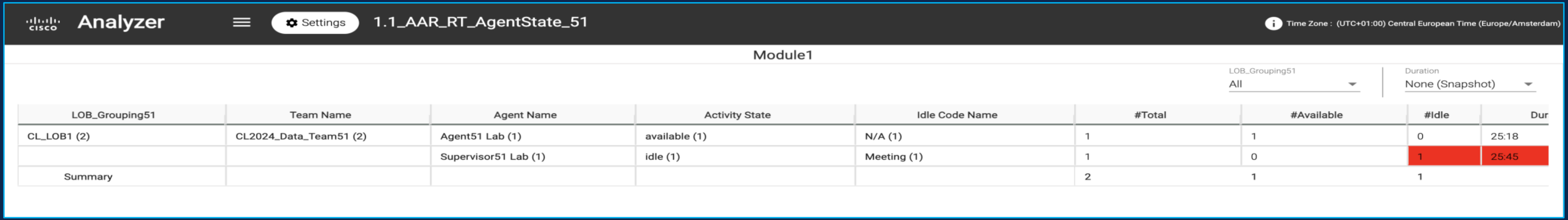
Trendline displays the overall direction of data in a single line.

Colour Coding Reports

Reference

Today, Analyzer **does not** provide the option to create colour-coded thresholds in the reports in order to change the colour of specific cells if certain threshold criteria are met.

The only alternative is to create a Row or Column Heat Map Output Type that uses different shades of red to identify outliers in the data of the row/column. The thresholds for each shade are automatically created by the system based on the total values and are not known to the user (thus can be misleading for a low number of data like the example below).



LOB_Grouping51	Team Name	Agent Name	Activity State	Idle Code Name	#Total	#Available	#Idle	Dur
CL_LOB1 (2)	CL2024_Data_Team51 (2)	Agent51 Lab (1)	available (1)	N/A (1)	1	1	0	25:18
		Supervisor51 Lab (1)	idle (1)	Meeting (1)	1	0	1	25:45
Summary					2	1	1	

Color-coded thresholds is coming as an enhancement in a future phase of Analyzer Beta.

Reporting Limitations

Reference

- A report displays a maximum of 150,000 records.
- A maximum of 5 filters can be displayed in a report during run-time mode.
- You cannot select more than 1000 values inside a filter.
- Analyzer allows for a Custom Duration date range of up to 12 months (between start and end date) and the start date cannot be earlier than 13 months from current date.
- (Coming Soon) If high cardinality fields (Contact Session ID, Agent Session ID) are selected as Row Segments during custom report creation, a warning pop-up message will appear to suggest using filters for these fields to ensure optimal experience.
- (Coming Soon) The lowest refresh interval that will be supported in Realtime reports will be 5 seconds.

Sharing the Data

Browser Link Report Access

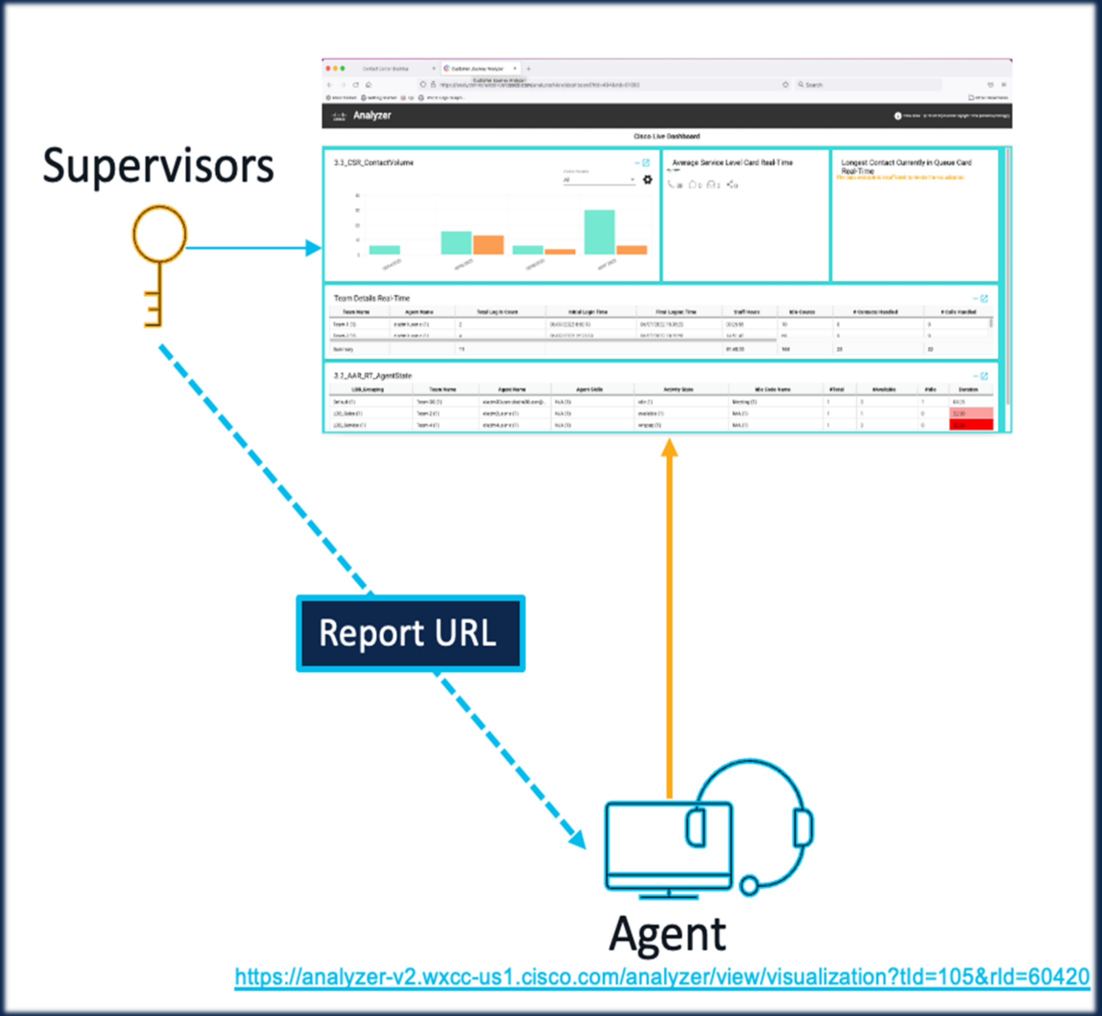
By default, access to Analyzer is restricted to admins and supervisors. This is a quick option for them to share specific visualizations with **Agents**.

Browser link access possible both for standard and premium agents.

Runs in browser timezone.

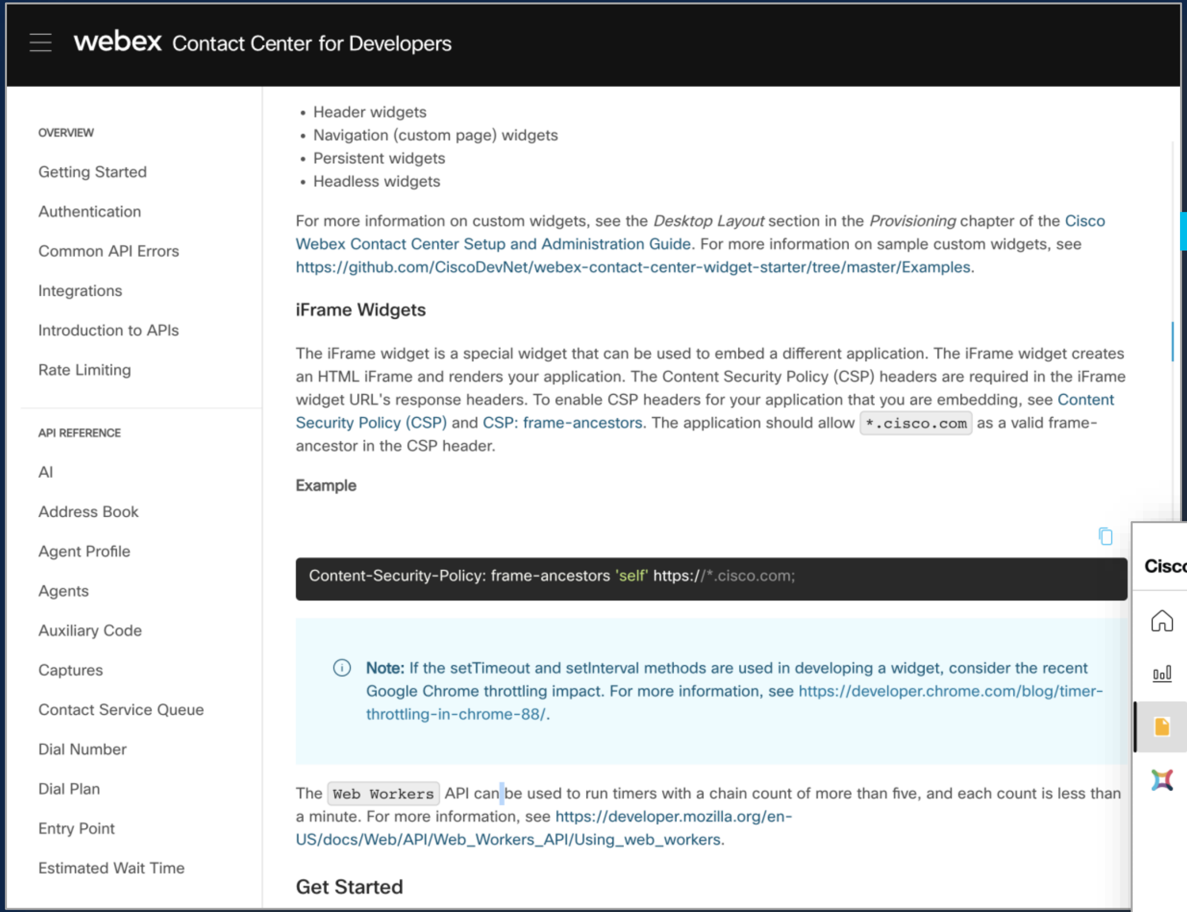
Agents will only see the data allowed based on their access control.

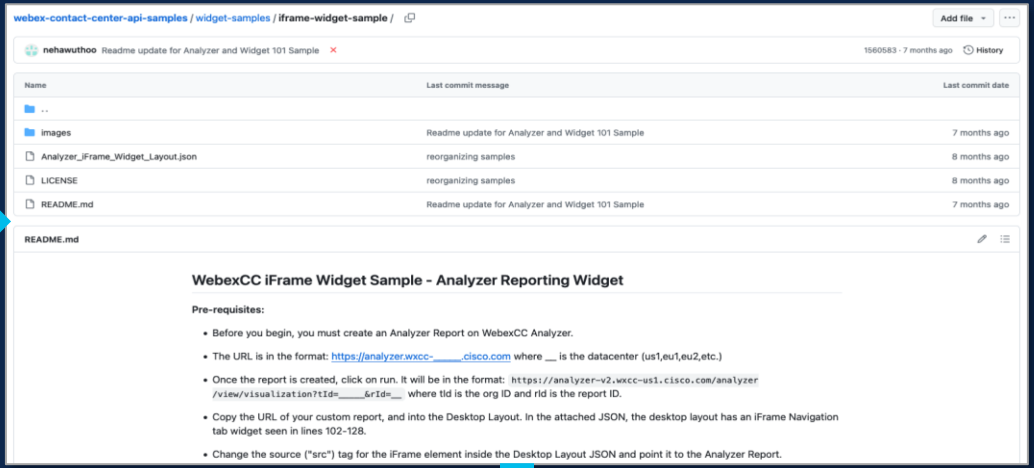
Note: Drilldown functionality is not available via browser link report access

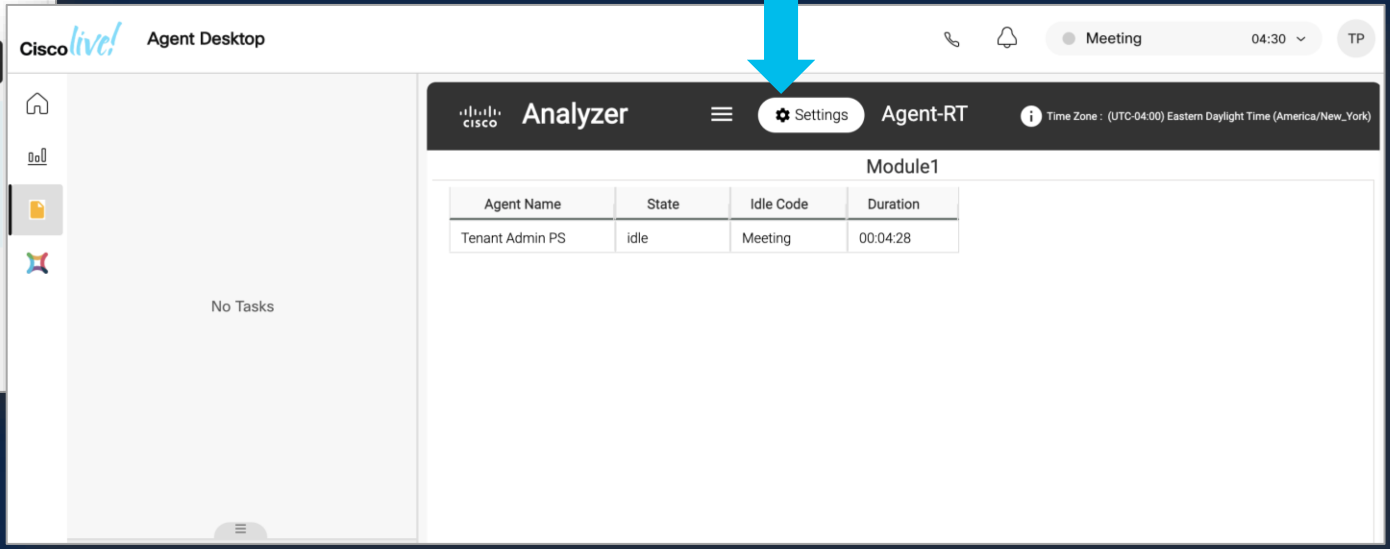


Embedding the Report into Desktop

[Desktop Developer Documentation](#) [Analyzer Iframe Widget Sample (GitHub)](#)

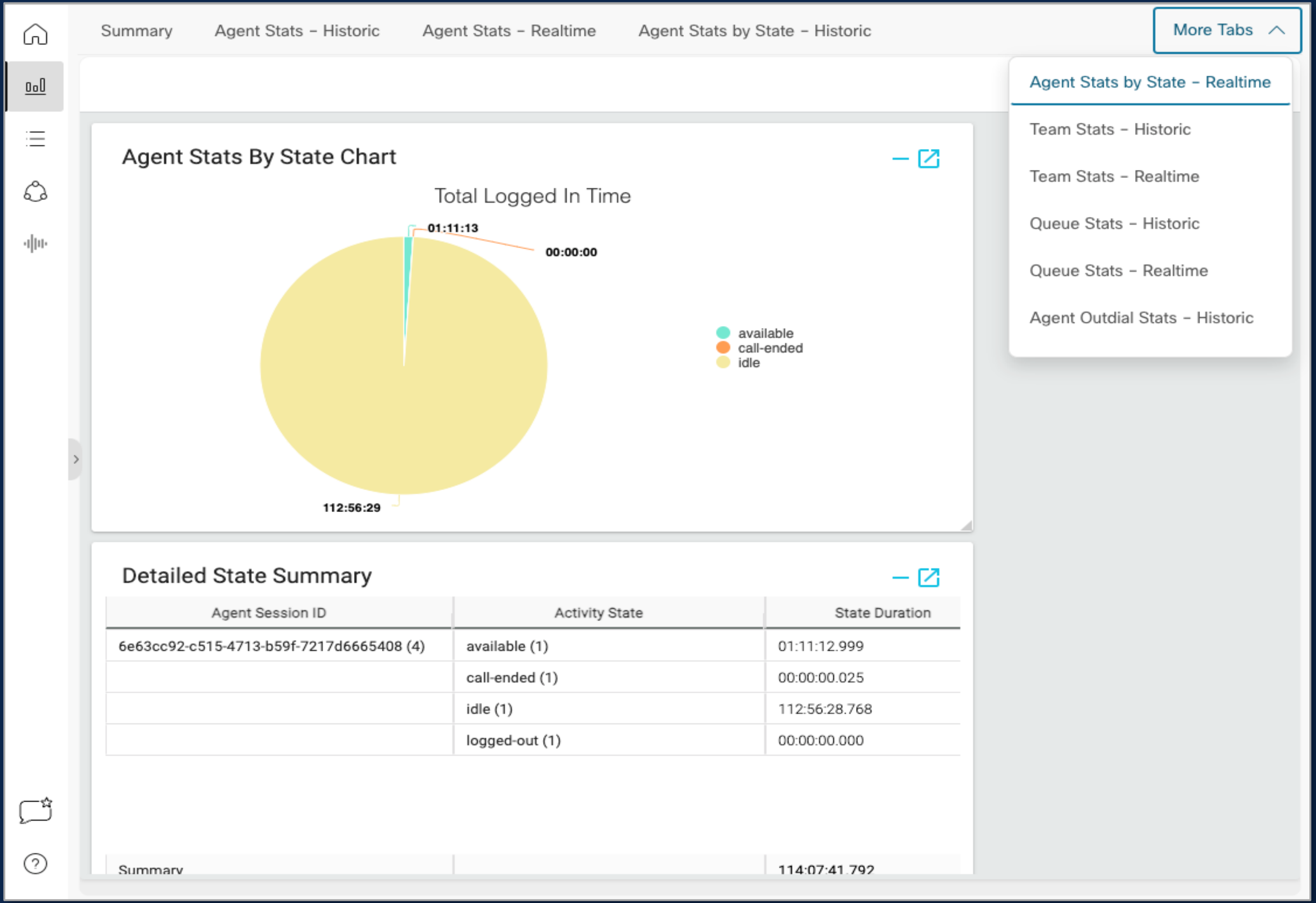






Agent Performance Statistics (APS)

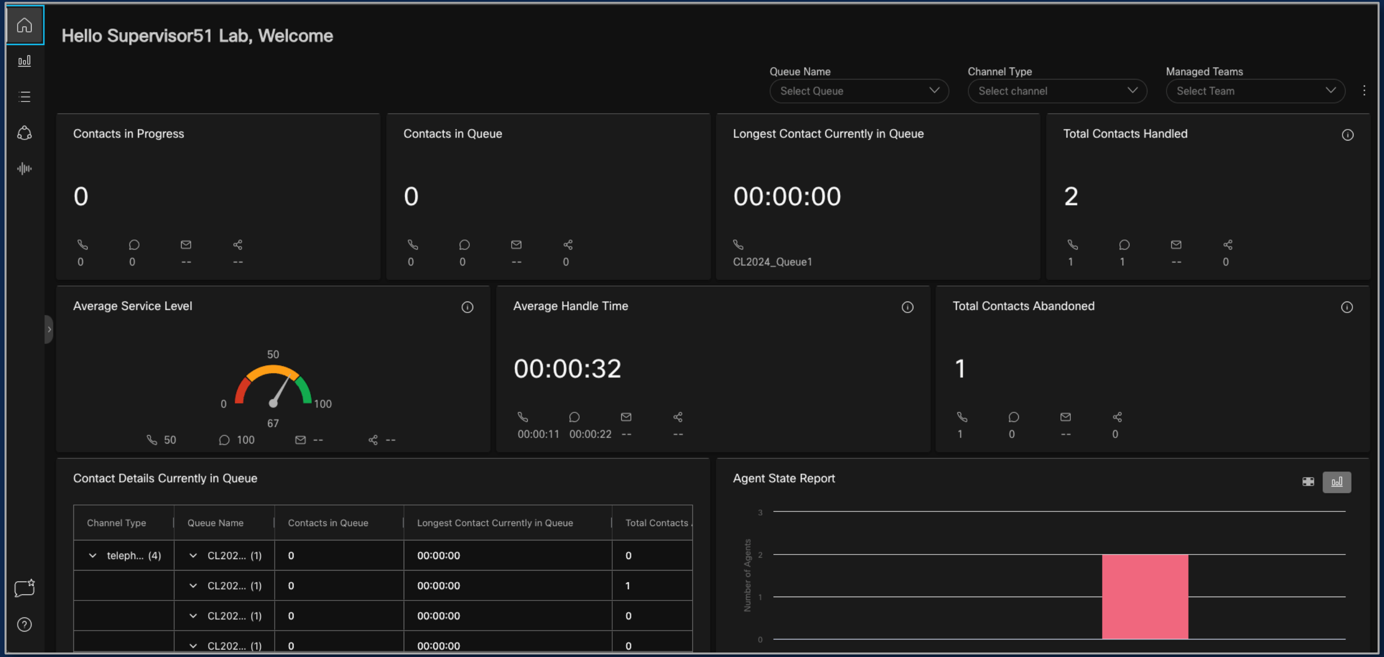
- APS offers multiple Dashboards with Agent, Queue or Team statistics (Historical or Realtime), available both in Agent & Supervisor Desktop.
- Access to APS is defined in the Desktop Profile of the user.
- APS reports are not editable, we can only apply **persistent** filters.
- APS dashboards do not exist in Analyzer as stock reports, but we can cross-launch them from Desktop in a new window.



Report refresh rate varies for each report, they are mainly between 5-60 seconds.

Supervisor Desktop (ESD) Reporting

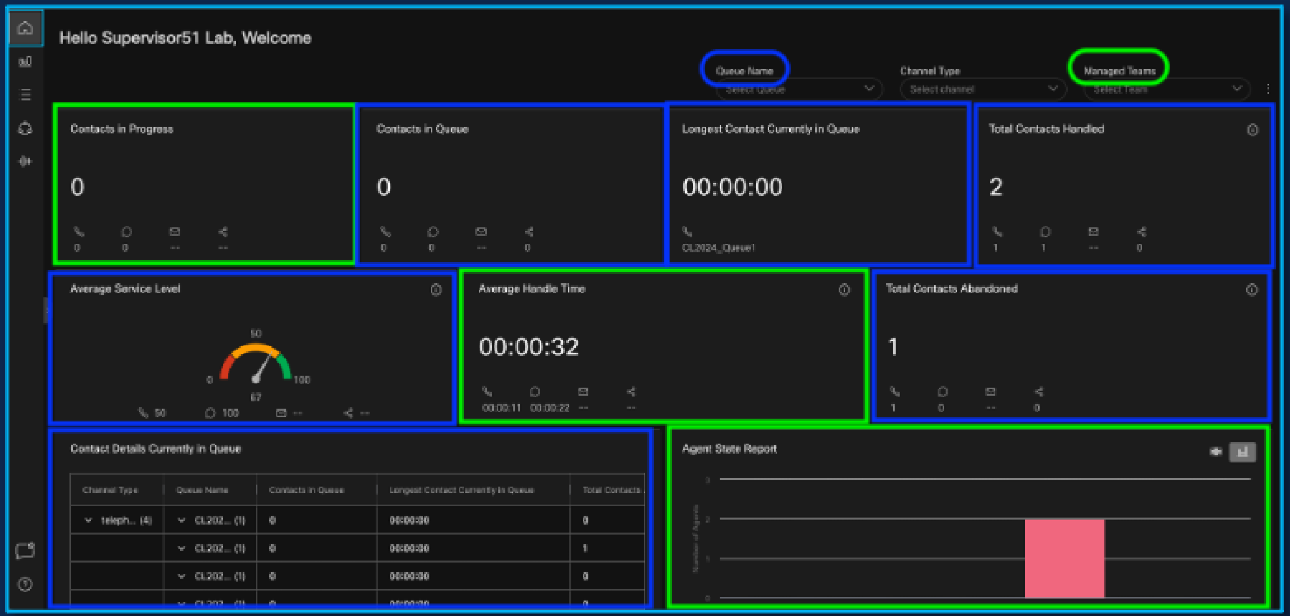
- Supervisor Desktop **Home** offers a comprehensive dashboard with Queue, Team & Agent Statistics.
- Supervisors can filter the dashboards, remove unwanted widgets but <u>cannot edit existing</u> ones today.
- Team Performance Details tab offers Supervisors a real-time view of all their managed agents, their current status and details.



Supervisor Desktop Tips

Reference

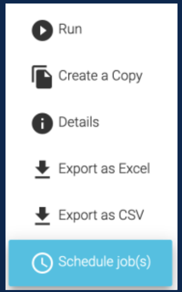
1. Desktop allows to filter on either Queue or Team. Out of the Desktop’s 9 Widgets:
   - Contacts in Progress, Average Handle Time and Agent State Report metrics depend on Teams.
   - All the other results are based on selected Queues filter.

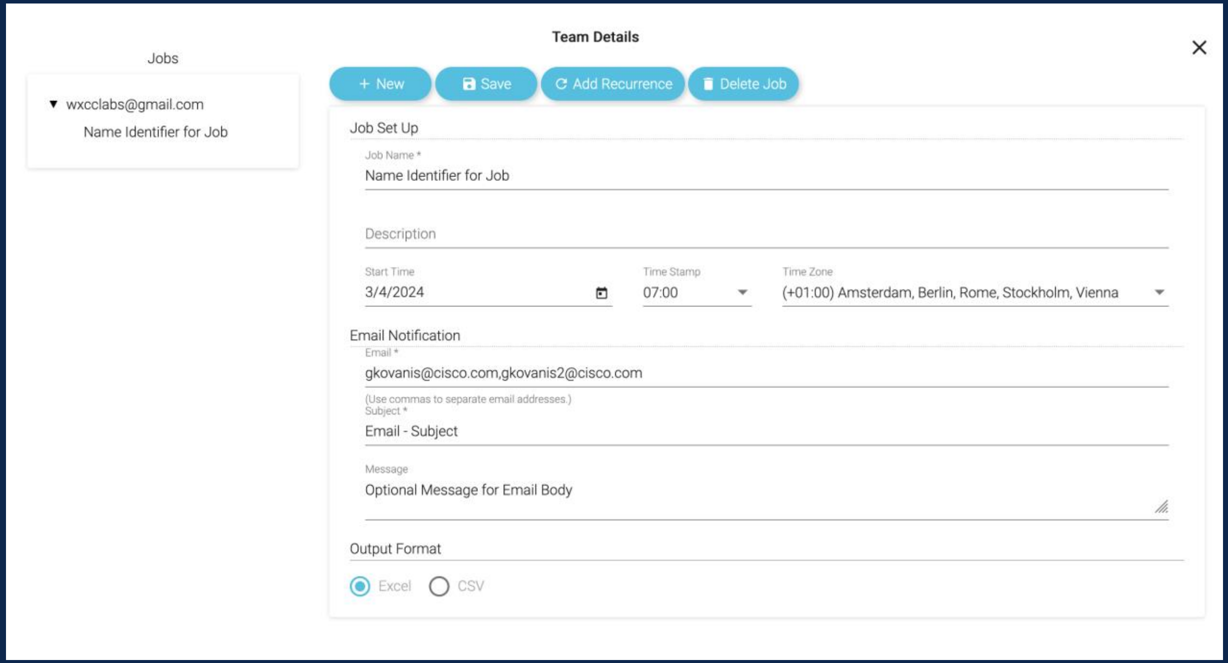


2. Customers sometimes have confusion when trying to compare the KPI cards of Desktop with Analyzer. Thus, Cisco create a dedicated [article](#) to explain all the necessary details when comparing.

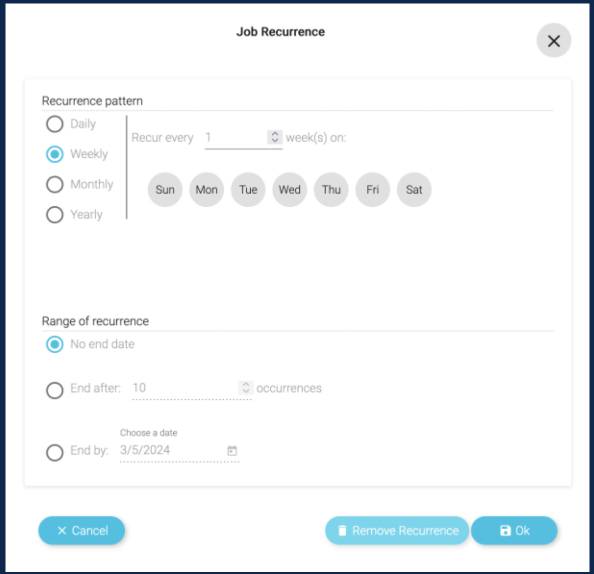
Report Scheduling

- Allows to send a Historical (stock or custom) Visualization to one or multiple emails at a predefined time.
  - Received output is **Excel** or **CSV**.
  - Maximum file size is **10 MB** and maximum number of supported columns is 2000.





- Jobs can be configured to re-occur at specified intervals.



Extracting the Data

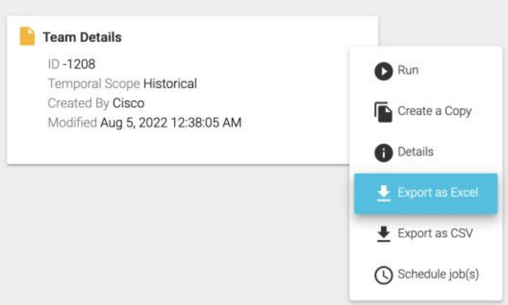
Export Visualization

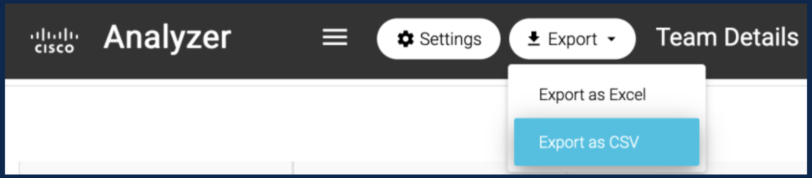
- Download the data of historical visualization as an **Excel** or **CSV** file.
  - Option <u>not available</u> for real-time or compound visualizations.
  - Exporting a Card will download the underlying data in a table format.

Time Zone: (UTC-05:00) Eastern Standard Time (America/New_York)

Interval ↓	Team Name ↓	Agent Name ↓	Total Log In Count	Initial Login Time	Final Logout Time	Staff Hours	Idle Counts	# Contacts Handled	# Calls Handled
02/26/2024	131_Team1	Agent131 Lab	1	02/26/2024 05:46:54	02/26/2024 23:56:19	72:37:40	16	3.0	3.0
	132_Team1	Agent132 Lab	1	02/26/2024 08:53:46	02/26/2024 09:07:45	00:55:54	8	1.0	1.0
02/27/2024	131_Team1	Agent131 Lab	1	02/27/2024 01:15:49	02/27/2024 04:55:57	14:40:31	4	0.0	0.0
	CL2024_Data_Team51	Agent51 Lab	1	02/27/2024 11:34:46	02/27/2024 11:50:33	04:12:34	62	3.0	3.0
	CL2024_Team2	Agent51 Lab	1	02/27/2024 10:45:17	02/27/2024 11:33:58	12:59:02	80	0.0	0.0
	CL24_3002_Team	Agent2 Lab	2	02/27/2024 23:36:20	02/28/2024 00:01:30	06:13:53	48	0.0	0.0
02/28/2024	CL24_3002_Team	Agent2 Lab	2	02/28/2024 00:02:36	02/28/2024 09:18:09	93:13:35	36	1.0	0.0
02/29/2024	130_Team	Agent130 Lab	1	02/29/2024 03:42:43	03/01/2024 09:28:14	119:02:03	12	0.0	0.0
Summary	Summary	Summary				323:55:11 (SUM)	266 (SUM)	8.0 (CUSTOM)	7.0 (CUSTOM)

- Export option can be triggered either in browsing mode or during report execution.

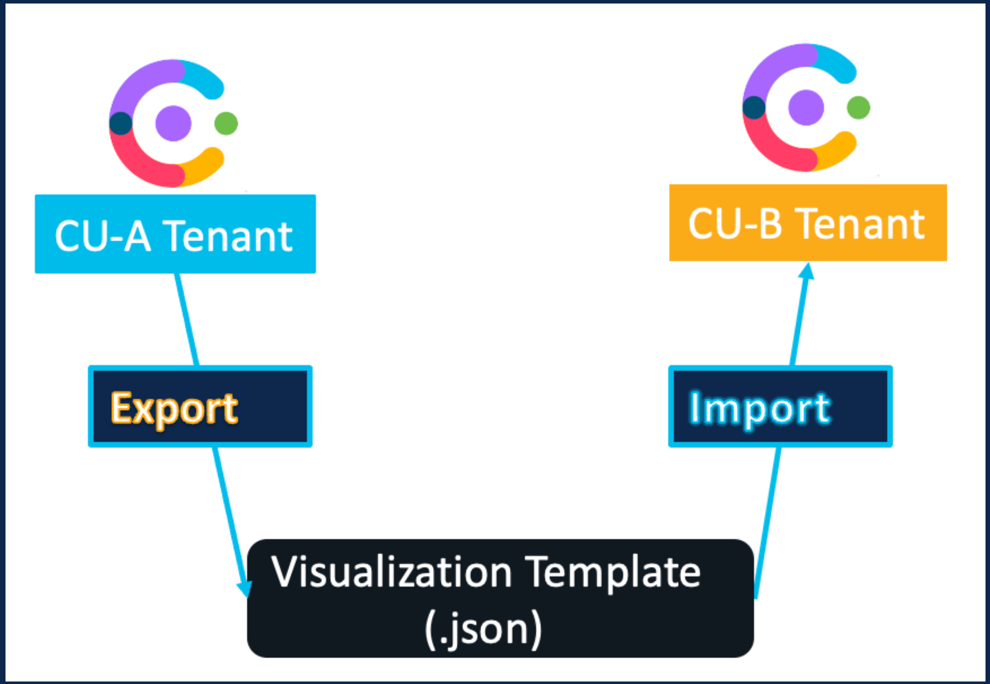




Export/Import Template

Reference

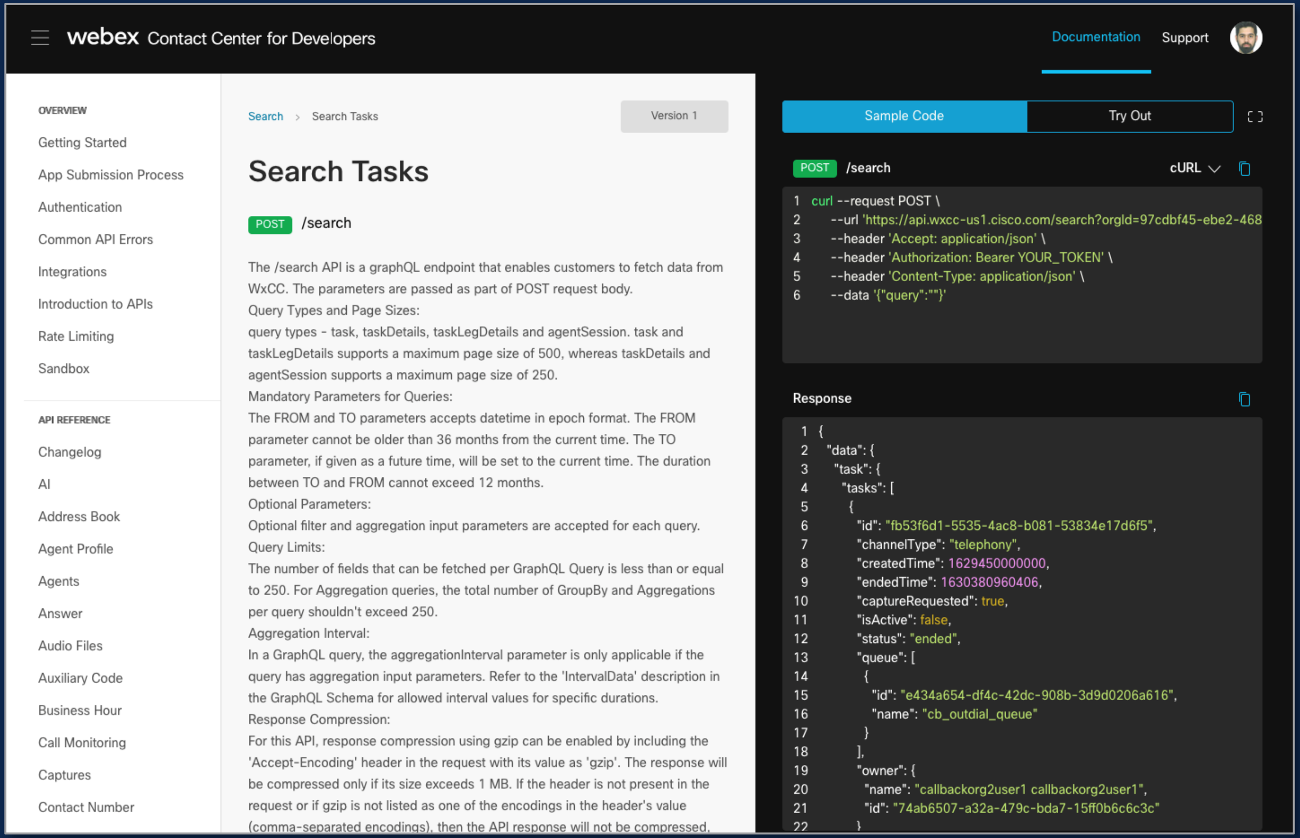
- Useful for reusability of same report across multiple tenants or as backup.
- Possible to export a single report or a folder containing multiple reports (max 25 at a time).
- File saved in JSON format.



- Filter names are retained but filter values are removed during export.

Search APIs

- Search API allows the user to retrieve data from the Analyzer database programmatically.
- Search API utilizes GraphQL as an endpoint.
  - GraphQL is a query language for declarative data fetching.



Search APIs GitHub Documentation

- We created a comprehensive Guide & GitHub repo with definitions, examples & use cases.

- Data Dictionary provided also for every single available variable in the API.
- There is no 1:1 mapping between each Analyzer & API variable.

Getting started with the Search API using GraphQL

For a quick overview of the `search` API and how to use our documentation, refer the video below:

Watch Getting Started With the Search API

Watch: Getting Started with the /search API

Introduction

A GraphQL API enables clients to construct queries to retrieve data. The queries are defined by the API server in the form of a GraphQL schema, which acts as a contract between the server and the client.

Note: For an introduction to GraphQL, refer : GraphQL - 101

The API allows access to the following:

1. Task related data stored as Customer Session Records (CSRs) and Customer Activity Records (CARs), accessible using the **taskDetails** graphql query.
2. Agent related data stored as Agent Session Records (ASRs) and Agent Activity Records (AARs), accessible using the **agentSession** graphql query.
3. Queue related data stored as Call Leg Records (CLRs), accessible using the **taskLegDetails** graphql query

Based on the operation, a query can be of two types:

Contents

CSR Data Dictionary

Customer Session Record (CSR) - It represents the customer workflow, consisting of a sequence of customer activities. The following fields are available in a CSR record.

Note - These fields are applicable only for the API and not for Analyzer UI.

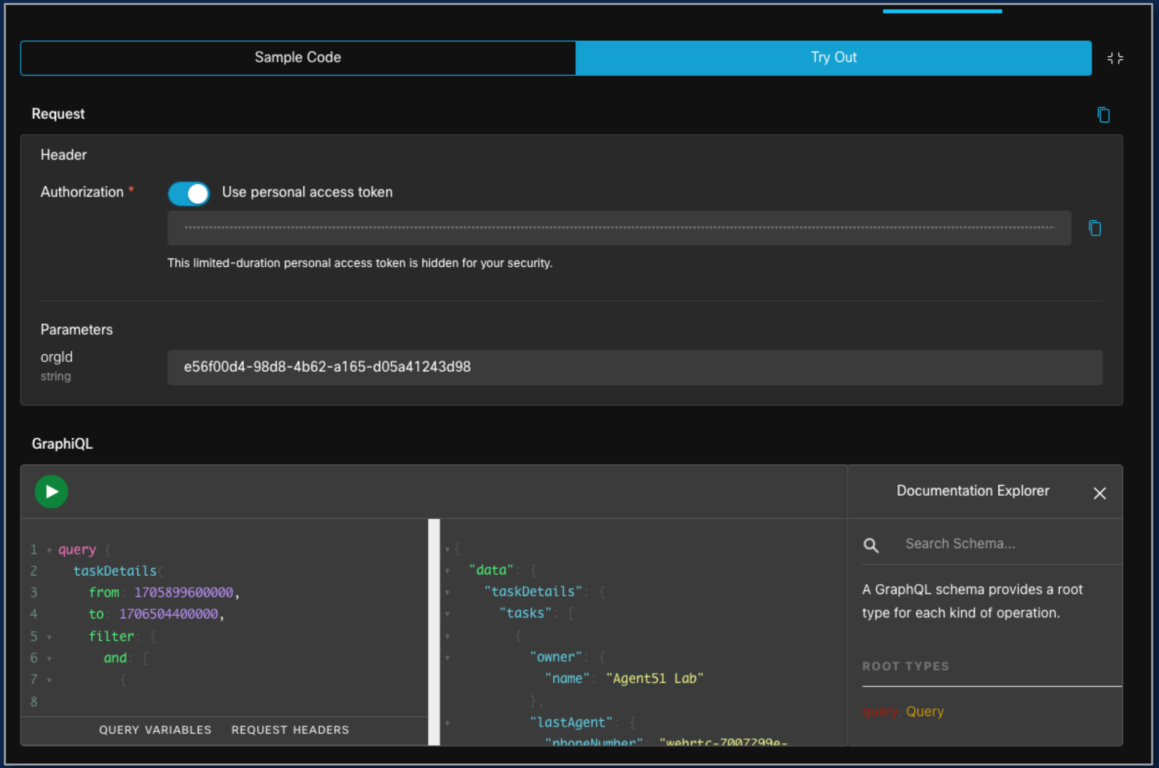
Field Name	Field Type	Description	Is Aggregation allowed?	Is GroupBy allowed?	Is Filter allowed? (use 'filter' argument for all the fields)	Is Sortable?
id	String	A unique string that identifies the contact session.	Yes	Yes	Yes	Yes
status	String	Current state of the contact. Eg: available, idle, ringing, wrapup, etc.	Yes	Yes	Yes	Yes
channelType	String	The media type of the contact, such as telephony, email, or chat.	Yes	Yes	Yes	Yes
createdTime	Long	Time when the contact started.	Yes	Yes	No	Yes
endedTime	Long	Time when the contact ended.	Yes	Yes	Yes	Yes

Graph QL for Search API

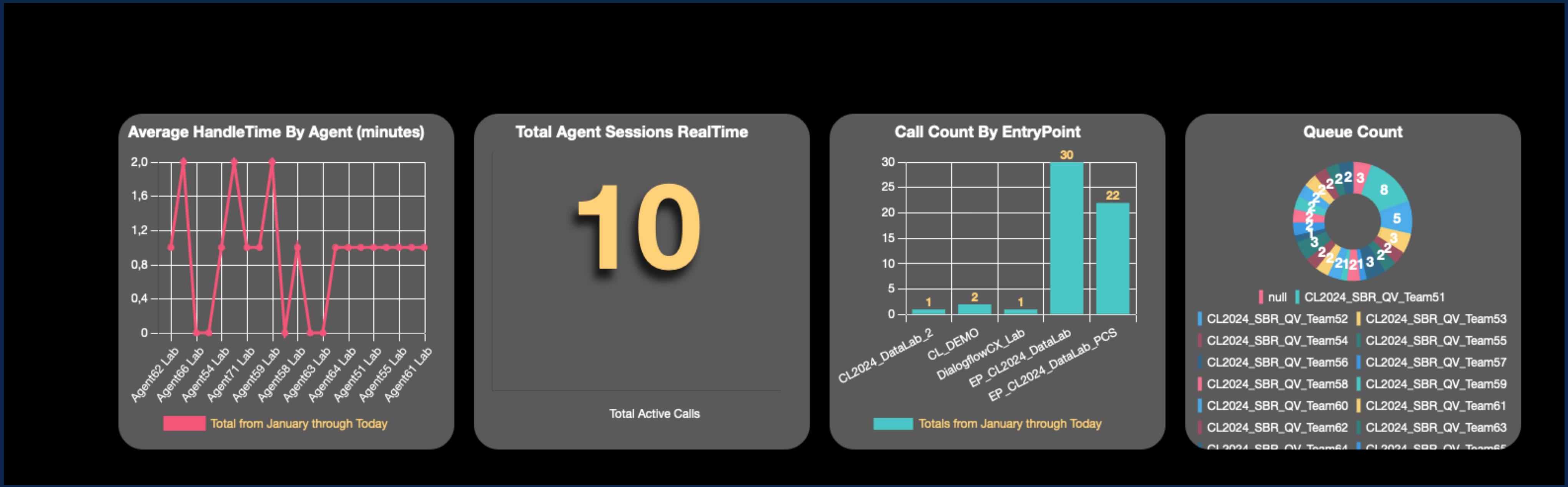
- GraphQL is a query language for declarative data fetching.
- Relationship between Analyzer repositories and GraphQL queries:
  - CSR / CAR -> taskDetails
  - ASR / AAR -> agentSession
  - CLR (Queue Records) -> taskLegDetails

Search API has the same time range restrictions as Analyzer portal (e.g. can only fetch information from last 13 months).

- Two types of queries:
  - Query to fetch raw data (=Value based)
  - Query to perform aggregations (=Count Based)

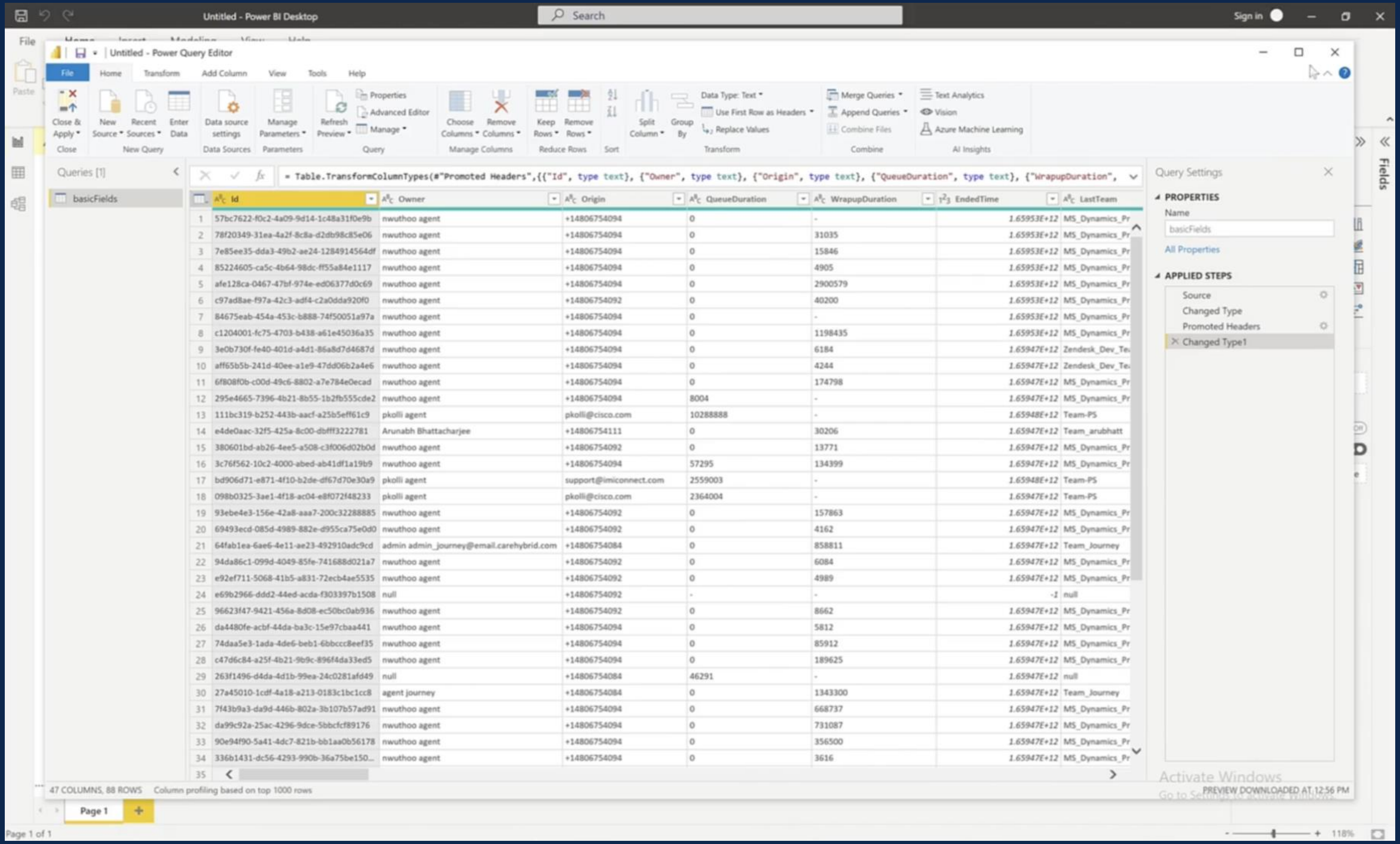


Graph QL unlocks… Wallboards



[Sample Overview and Demo]

Graph QL unlocks... BI Integrations

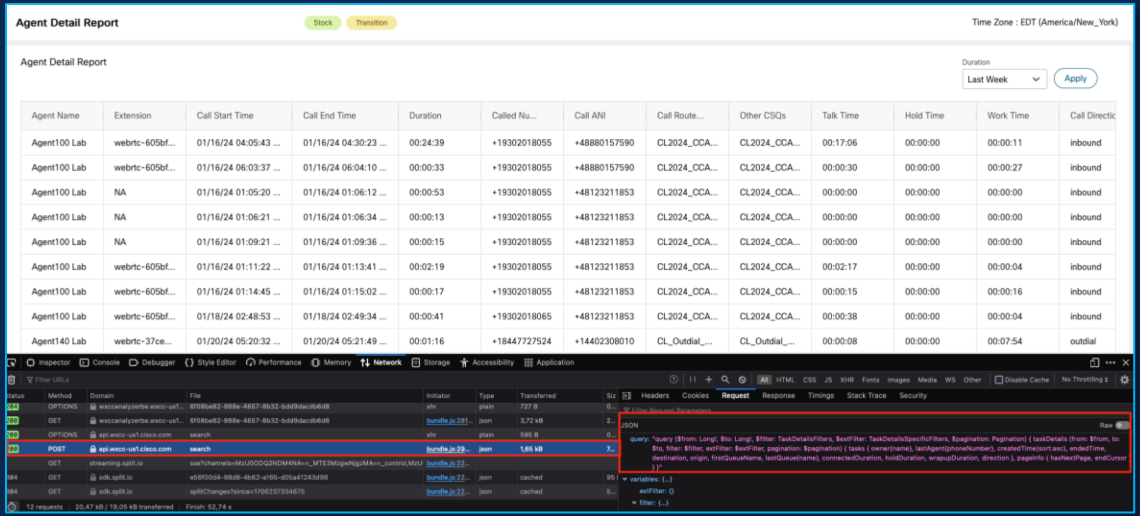


[Sample Overview and Demo]

Graph QL unlocks… Report Extracting

Reference

- *Can we extract the schema of a report to directly use an API instead of building it?*
- Each Analyzer version is utilizing a different architecture concept:
  - Analyzer -> REST APIs
  - Analyzer Beta -> GraphQL APIs
- This means we can only use Analyzer Beta reports.
- We can use the **Network** tab from the **Browser Developer** tools to inspect the report query (guide).
- *Note: The extracted JSON is not a ready drag&drop GraphQL query, we need to add information to the query for a successful API request. Thus, this capability is only used as a guideline on building a query, not as a direct fetch of an Analyzer report via API.*



Closure

Call to Action

- Lots of Data Source Tech Summit Left!
  - Voice of Customer/Cisco Journey Data Service
  - Design Challenge & Use Cases
  - PM Feedback & QA
- Review and Save this presentation with reference slides.
- If you haven't already, go through the Analyzer Deep Dive lab.
- If you are interested in customizations, review the new Search API guide and the Cisco sample GitHub repository.
- Discover, build (reusable) reports and discover some more!
- Reach out to us with feedback!

The bridge to possible