Job Monitoring Dashboard

(Multichannel Video Programming Distributor)

Developed Tableau dashboards and backend data architecture to enable real-time job status monitoring.

JOB MONITORING DASHBOARD FOR MULTICHANNEL VIDEO PROGRAMMING DISTRIBUTOR

ABOUT THE CLIENT

Client is a multichannel video programming distributor in U.S with 15M+ subscriber base

SITUATION

- Client's advanced analytics vertical struggled to get timely and organized reports on the job statuses. This hindered their ability to make informed decisions and take necessary actions, potentially resulting in dissatisfied customers and lost revenue.
- Merilytics partnered with the client to create job monitoring dashboards to track jobs with multiple refresh frequencies and provide near real-time status updates to stakeholders. Also, implemented an automated email alert system and developed the backend data architecture including reporting layer and ETL processes.

VALUE ADDITION

- **Designed and implemented data architecture** including reporting layer and ETL processes for data ingestion/ processing and updates to dashboards
- Developed dynamic Tableau dashboards that provide users with **near real time job status updates**
- Designed tree maps to **visualize job dependencies**, and heat maps to analyze the distribution of workload and exception statuses over time
- Established **automated email alerts** to notify job owners promptly in case of job failure or exceptional status updates

IMPACT

- **Reduced the turnaround time** in identifying and solving daily job issues **by ~60%,** resulting in improved productivity
- Dashboard provided insights into **system's workload and exception statuses frequency**, enabling client to take proactive measure resulting in improved client efficiency and customer satisfaction

METHODOLOGY/ APPROACH

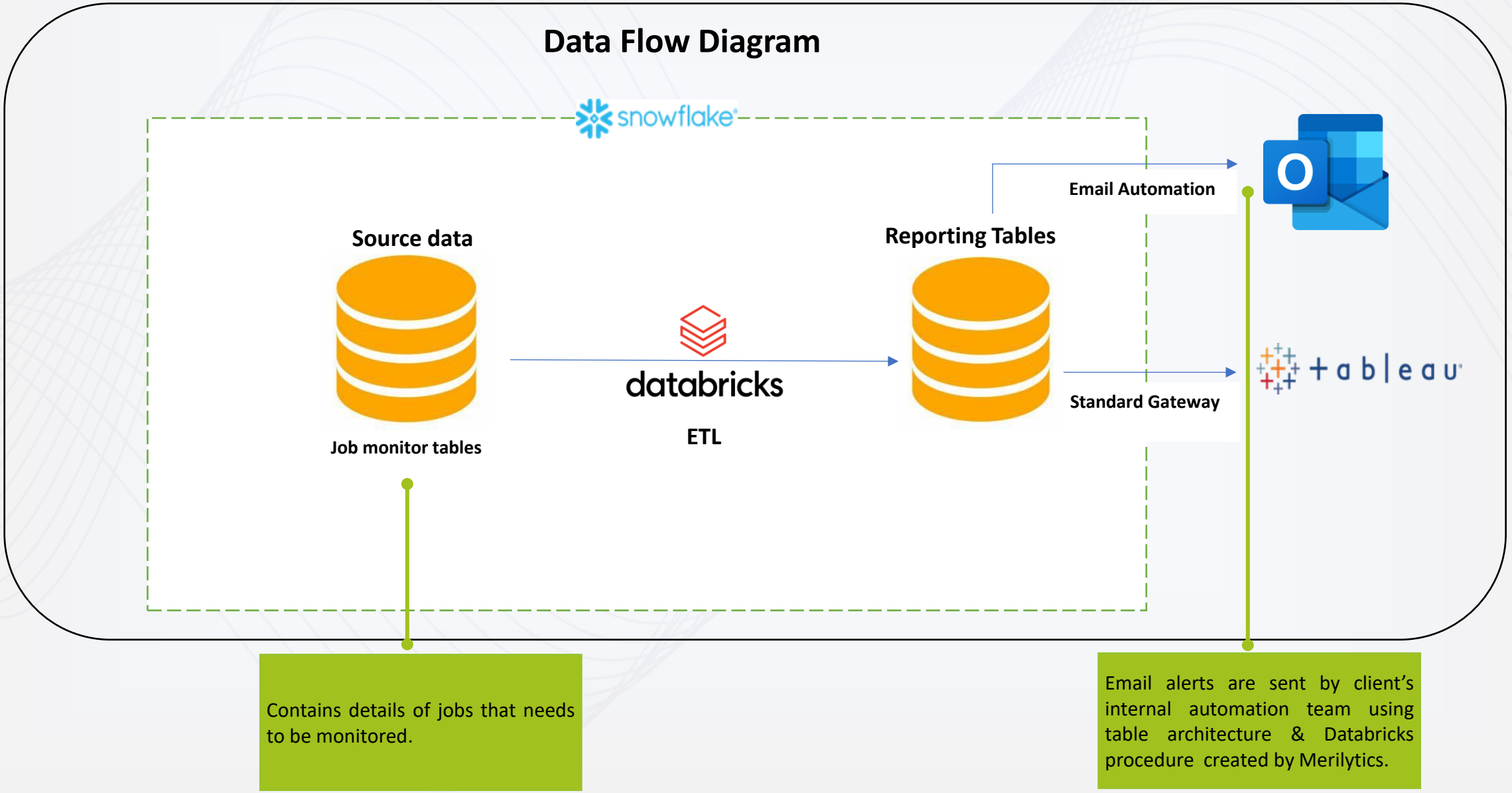
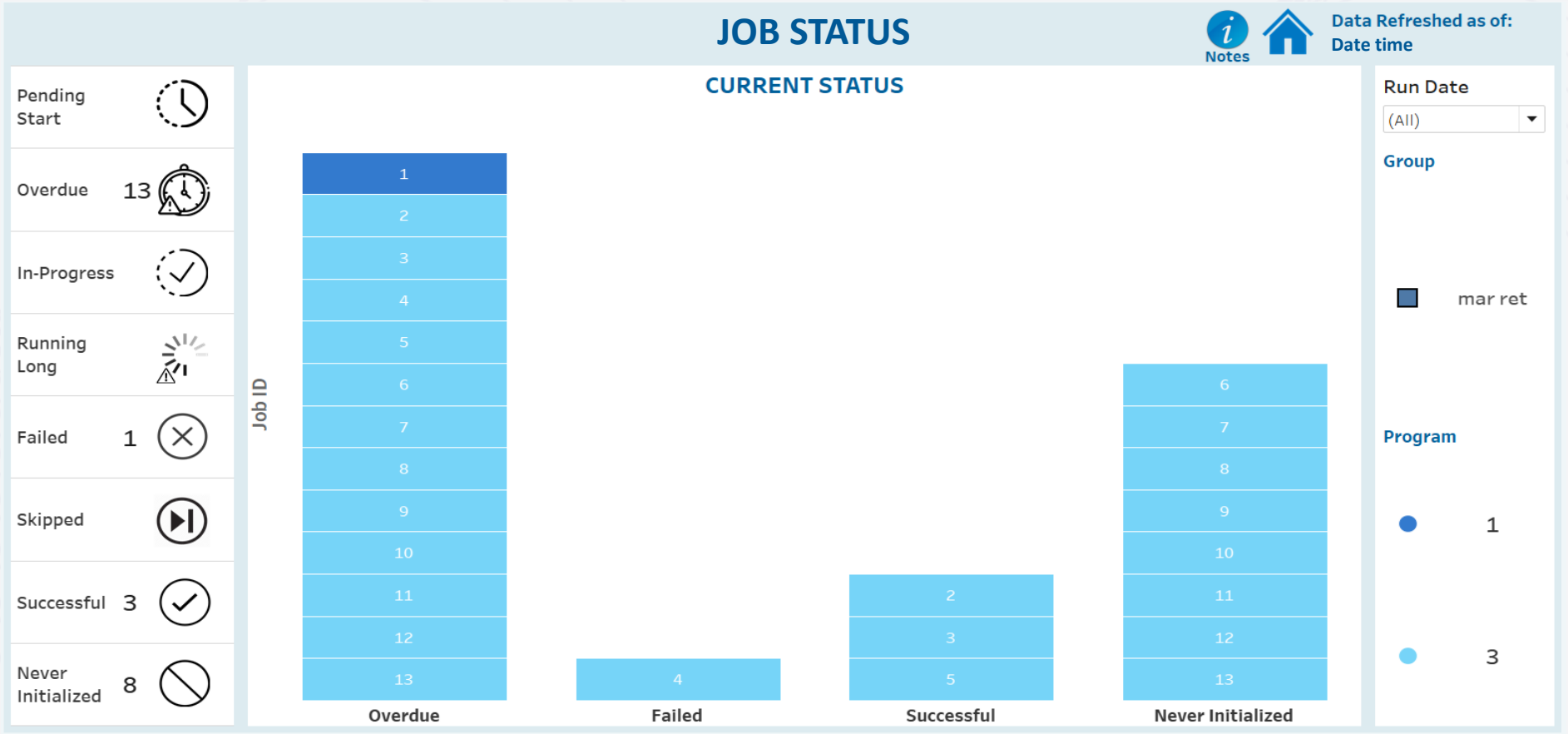


EXHIBIT #1 – JOB CURRENT STATUS MONITORING

ILLUSTRATIVE



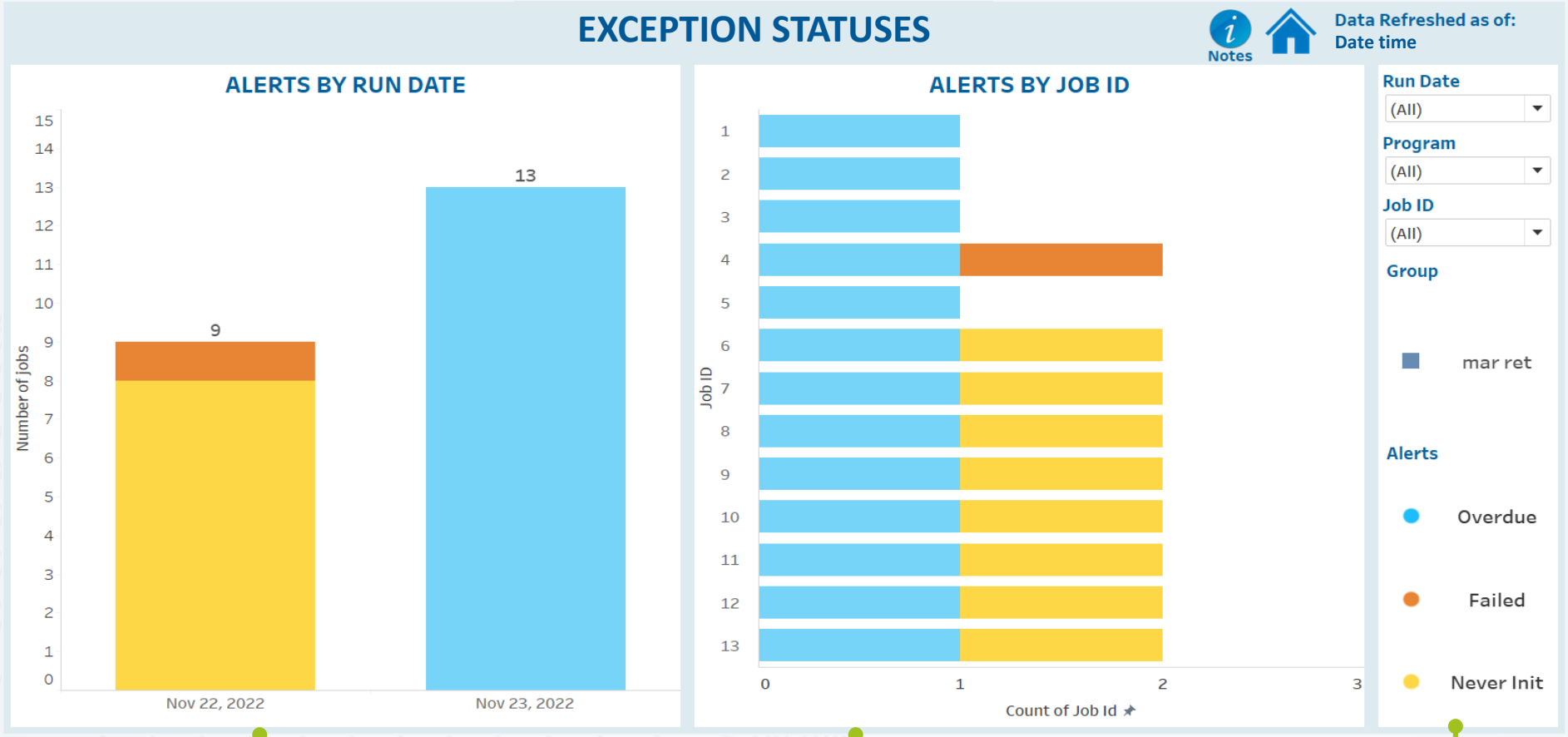
Provides summary of current status of jobs scheduled for the day

Provides current statuses of jobs scheduled for the day

Slicers provided to deep dive into groups and programs

EXHIBIT #2 – EXCEPTION JOB STATUSES TRACKING

ILLUSTRATIVE



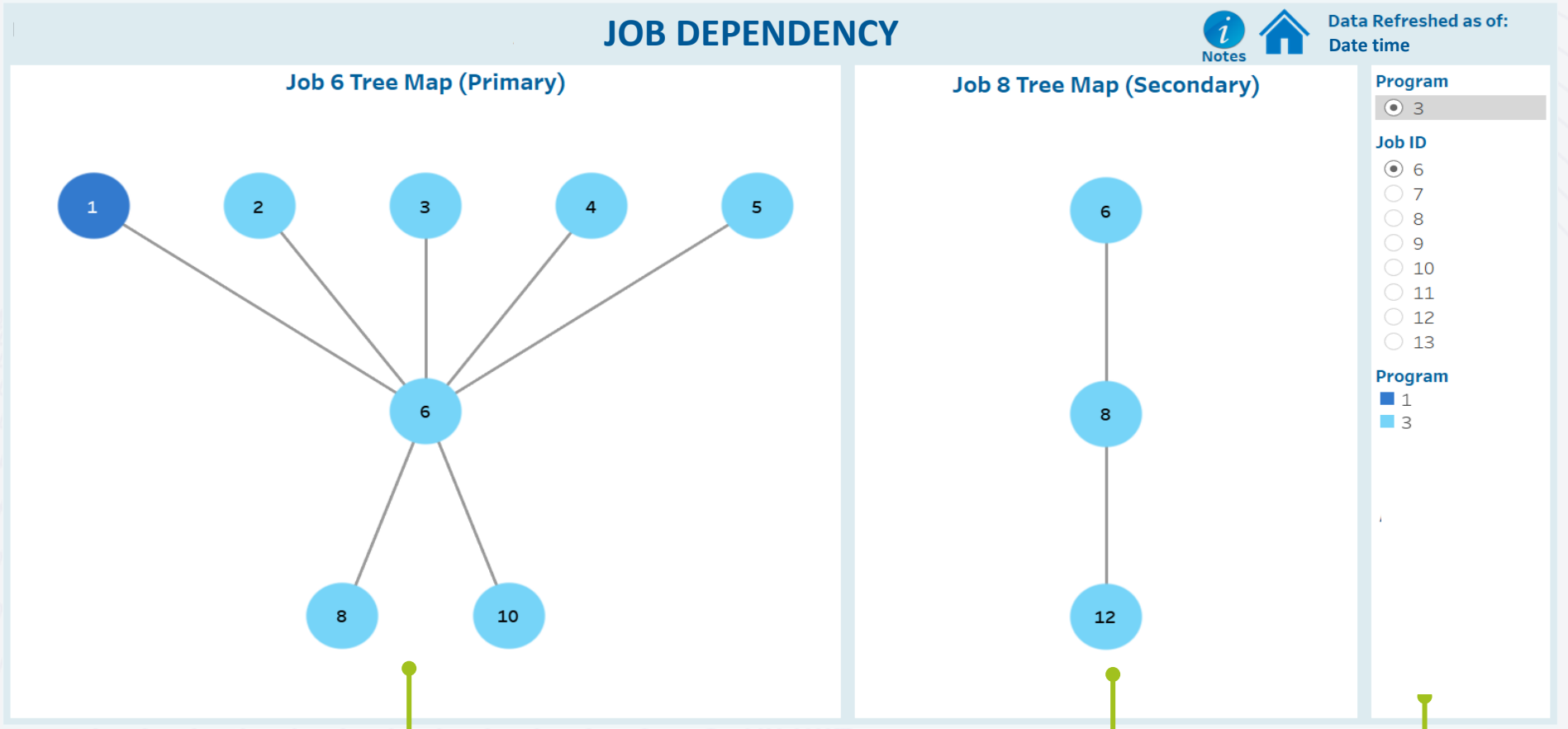
Provides summary of exceptional statuses of various jobs by run date

Provides history of exceptional statuses of various jobs by job ID

Slicers provided to deep dive into groups, programs, and alerts

EXHIBIT #3 – JOB DEPENDENCY TRACKING

ILLUSTRATIVE



Provides summary of trigger jobs and dependant jobs for a given job ID

Legend provided to identify the program IDs of trigger and dependant jobs

EXHIBIT #4 – JOB LOAD AND EXCEPTIONAL OUTCOME DISTRIBUTION

ILLUSTRATIVE

HEAT MAPS

Notes

Data Refreshed as of:
Date time

Hourly Job Load

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Monday	87	146	104	62	32	29	50	111	136	124	96	137	163	55	106	124	65	176	71	67	159	62	111	26
Tuesday	124	189	97	59	124	92	84	129	140	171	127	53	135	131	160	83	27	35	162	37	26	170	132	28
Wednesday	124	167	30	118	131	111	210	129	99	28	37	123	31	113	29	28	115	104	82	91	110	77	163	28
Thursday	27	197	47	123	28	56	115	34	88	163	77	166	157	138	68	178	178	128	34	113	121	71	29	107
Friday	29	109	82	174	146	137	25	197	26	120	31	38	147	193	49	133	122	49	106	106	102	129	122	129
Saturday	37	191	27	88	145	71	35	40	24	28	45	107	127	174	29	89	40	34	28	96	27	95	29	28
Sunday	30	47	142	119	133	129	92	84	29	114	56	120	121	52	20	54	29	28	28	89	114	34	83	151

Run Date
12/19/2022 12/25/2022

Hourly Jobs Count
20 210

Job Load Distrbution (Minutes)

	0	5	10	15	20	25	30	35	40	45	50	55
Monday	28	1	3	16	22	16	7	18	10	12	22	3

Minutes Jobs Count
1 28

Exceptional Outcomes

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Monday	59	95	86	36	3	7	20	105	109	100	18	61	135	48	12	98	1	123	54	6	73	56	91	26
Tuesday	79	58	4	8	101	86	56	72	93	78	92	12	116	106	77	6	8	17	62	12	6	84	73	9
Wednesday	75	125	0	10	70	98	97	71	91	16	27	76	9	75	19	3	74	60	53	59	82	29	92	4
Thursday	24	88	42	69	11	46	45	9	61	76	8	144	71	90	67	106	80	91	11	82	86	54	22	102
Friday	10	65	11	100	97	125	15	96	7	87	23	18	63	125	37	116	111	45	76	85	76	108	102	81
Saturday	32	124	22	49	97	20	24	25	6	27	28	82	90	89	17	76	12	23	19	85	6	56	15	4
Sunday	16	19	90	88	53	87	52	67	18	74	33	96	84	46	10	47	27	0	23	8	77	29	68	55

Exceptional Outcomes Count
0 144

Provides summary of # jobs that ran between the selected run dates by day and hour

Provides summary of # jobs that ran between the selected run dates by hour and minutes

Provides summary of # exceptional outcomes (only skipped and failed) occurred between the selected run dates by day and hour

Shows colour coding scheme of the heat map

LEARNINGS

1.Built data architecture for near real-time refresh of Tableau dashboards:

- Gained expertise in designing and implementing data architecture for real-time data ingestion/processing and updates to Tableau dashboards.

2.Implemented automated email alert system using Databricks and Snowflake:

- Utilized Databricks and Snowflake platforms to set up automated alerts for specific events or triggers.
- Developed workflows to automate the generation and distribution of email alerts based on predefined criteria.

3.Enhancing knowledge of Tableau, Databricks, and Snowflake platforms:

- Gained deeper insights into the features and functionalities Tableau, Databricks, and Snowflake.
- Improved proficiency in using various tools, techniques, and workflows for data analysis, processing, and visualization.