nationalgrid | gas business enablement

Direct From The Heart Of A Co-op

Bring Energy to Life

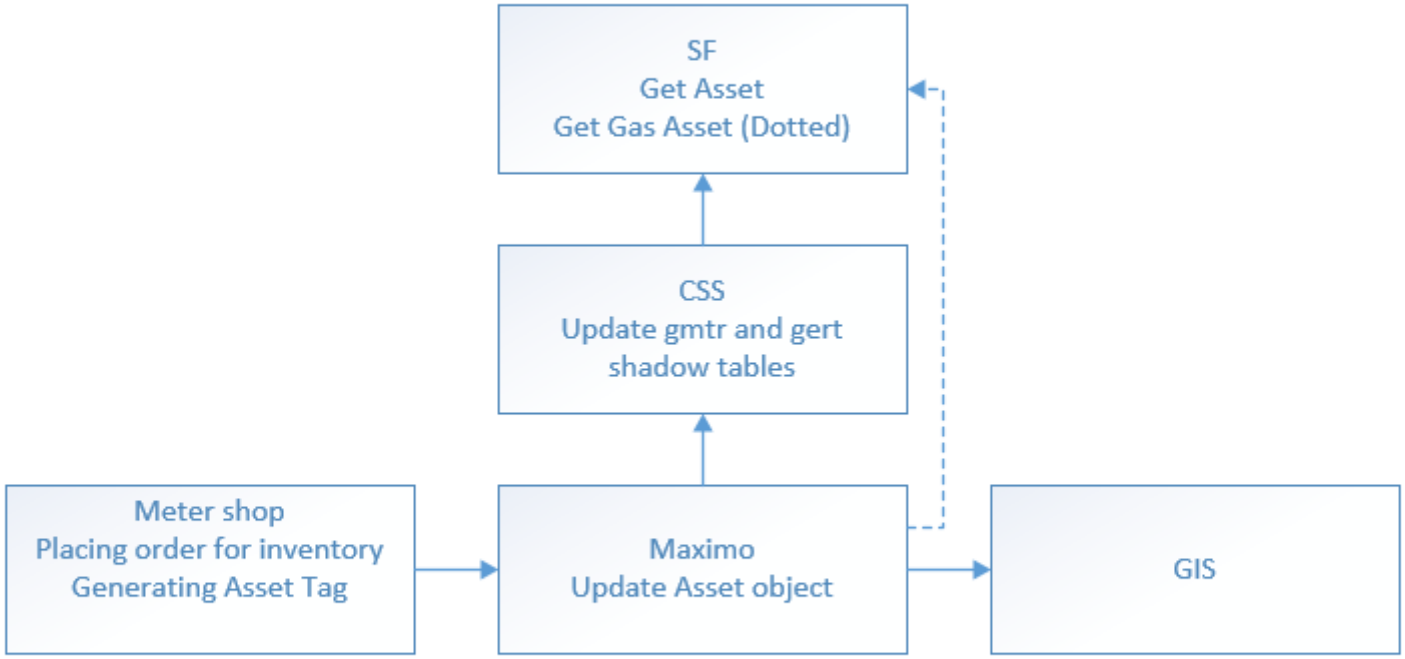
Ojas Phansekar

Induction

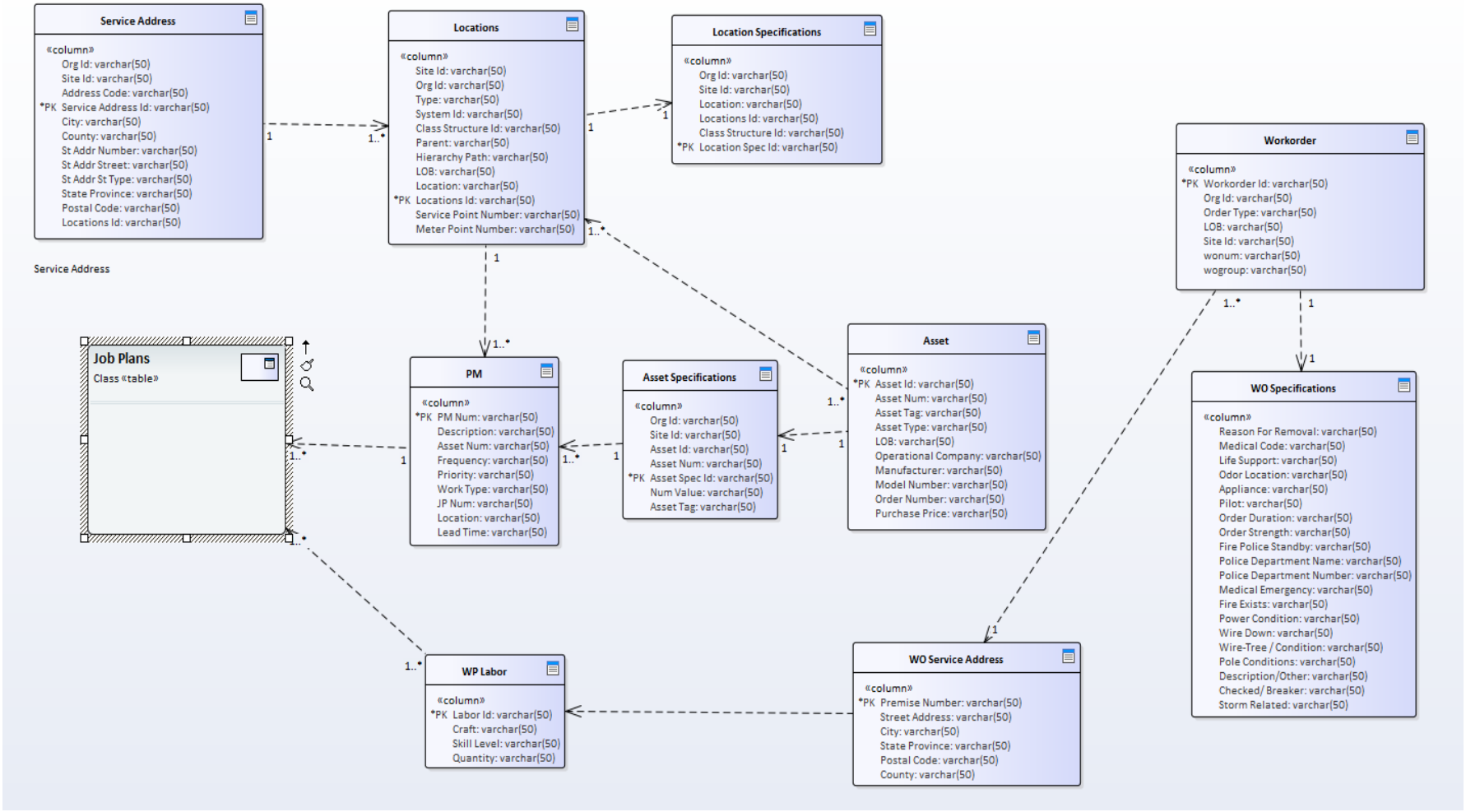
- Introduction to team members
- One-on-One interactions with each team member
- Introduction to the project by Nicolas Raad
- Access to different systems
- Knowing individual contributions to the team

Kick Start

- First Major Assignment ⟶ Data Flows



Data Model On Sparx Enterprise Architecture



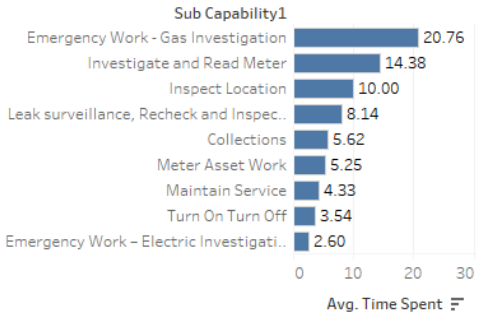
Project – Defect Analysis

Defects Analysis

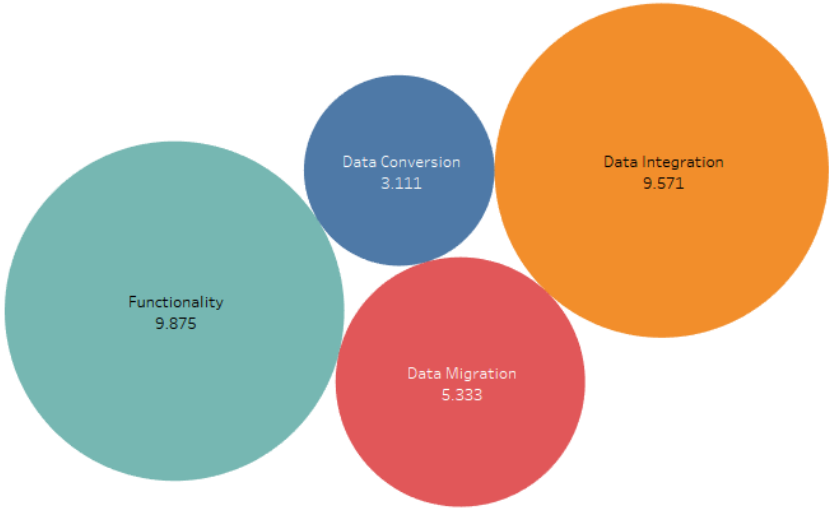
Segregation by Category and Status

Categorization	Status	Defect Count	Time Spent
Data Integration	Closed	8.0	69.0
	Total	12.0	69.0
Functionality	Closed	67.0	657.0
	Open	4.0	
	Total	84.0	657.0
Data Conversion	Closed	11.0	41.0
	Total	12.0	41.0
Data Migration	Closed	7.0	35.0
	Total	7.0	35.0
Grand Total		115.0	802.0

Time Spent by Different Sub-Capabilities on Defects



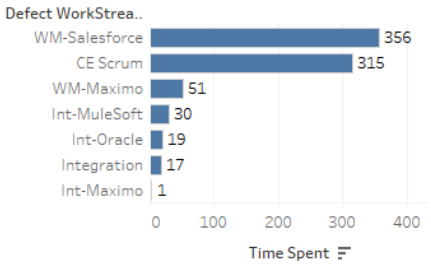
Average Number of Days Spent Per Category



Segregation by Category and Status Other Than Open and Closed

Categorization	Status	Defect Count	Time Spent
Data Integration	In Progress	1.0	
	In QA	1.0	
	New	2.0	
	Total	12.0	69.0
Functionality	Assigned	1.0	
	In Progress	2.0	
	In QA	4.0	
	New	6.0	
	Total	84.0	657.0
Data Conversion	New	1.0	
	Total	12.0	41.0
Data Migration	Total	7.0	35.0
Grand Total		115.0	802.0

Time spent on different Workstreams

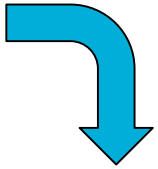


Data Validation / Data Accuracy / Testing

PA 2.3 Cutover

External Ref Ids are missing and Pwc(ERIC) is raising a low priority for it

```
select [STATUS],
[EXTERNALREFID],
[DESCRIPTION],
[SERIALNUM],
--[INSTALLDATE],
[CLASSSTRUCTUREID],
[NG_OPCO],
[NG_MANUFACTURER],
[NG_MODELNUM]
from [MX].[asset_recon]
where GROUPNAME like 'NG_VCMTRS'
```



	STATUS	EXTERNALREFID	DESCRIPTION	SERIALNUM	CLASSSTRUCTUREID	NG_OPCO	NG_MANUFACTURER	NG_MODELNUM
1	ACTIVE		Volume Corrector, Mercury-Mini-ATP 0-15#	11082728	1063	5360	MC	Mini-ATP 0-15#
2	ACTIVE		Volume Corrector, Mercury-MiniMax Atp 0-15#	13190466	1063	5360	MC	MiniMax Atp 0-1
3	ACTIVE		Volume Corrector, Mercury-Mini P 0-100#	9503308	1063	5360	MC	Mini P 0-100#
4	ACTIVE		Volume Corrector, Mercury-Minimax ATP 0-150#	13190487	1063	5360	MC	Minimax ATP 0-1
5	ACTIVE		Volume Corrector, Mercury-Mini-ATP 0-60#	926215	1063	5360	MC	Mini-ATP 0-60#
6	ACTIVE		Volume Corrector, Mercury-Mini-P 0-6#	9403775	1063	5360	MC	Mini-P 0-6#
7	ACTIVE		Volume Corrector, Mercury-Mini-PT 0-100#	9806121	1063	5360	MC	Mini-PT 0-100#
8	ACTIVE		Volume Corrector, Mercury-Mini-AT-PT 0-60#	924464	1063	5360	MC	Mini-AT-PT 0-60
9	ACTIVE		Volume Corrector, Mercury-Mini-Max ATP 0-6#	13078205	1063	5360	MC	Mini-Max ATP 0-
10	ACTIVE		Volume Corrector, Mercury-Mini max-atp 0-100#	11046576	1063	5360	MC	Mini max-atp 0-
11	ACTIVE		Volume Corrector, Honeywell-Mini MAX0-6	13078207	1063	5360	HO	Mini MAX0-6
12	ACTIVE		Volume Corrector, Mercury-Mini-atp 0-100#	407336	1063	5360	MC	Mini-atp 0-100#
13	ACTIVE		Volume Corrector, Mercury-Mini max-atp 0-100#	11046544	1063	5360	MC	Mini max-atp 0-
14	ACTIVE		Volume Corrector, Honeywell-Mini MAX0-6	13112103	1063	5360	HO	Mini MAX0-6
15	ACTIVE		Volume Corrector, Mercury-Mini ATPT 0-6#	12041515	1063	5360	MC	Mini ATPT 0-6#
16	ACTIVE		Volume Corrector, Mercury-Mini-P 0-6#	207369	1063	5360	MC	Mini-P 0-6#

Data Validation / Data Accuracy / Testing

PA 2.3 Cutover

Manufacturer field is null in the Source table VWRI_Volume_Corrector_RI and it is blank in Target table

Source Table

	vc_status	DESCRIPTION	evc_no	CLASSSTRUCTUREID	NG_OPCO	MANUFACTURER	evc_type
1	ACTIVE	Volume Corrector, Honywell-Mini MAX 0-150	11046584	1063	5360	NULL	Mini MAX 0-150
2	ACTIVE	Volume Corrector, Turbo-0-100	508642	1063	5360	NULL	0-100

Target Table

	STATUS	DESCRIPTION	SERIALNUM	CLASSSTRUCTUREID	NG_OPCO	NG_MANUFACTURER	NG_MODELNUM
1	ACTIVE	Volume Corrector, Turbo-0-100	508642	1063	5360		0-100

	STATUS	DESCRIPTION	SERIALNUM	CLASSSTRUCTUREID	NG_OPCO	NG_MANUFACTURER	NG_MODELNUM
1	ACTIVE	Volume Corrector, Honywell-Mini MAX 0-150	11046584	1063	5360		Mini MAX 0-150

Data Validation / Data Accuracy / Testing

PA 2.3 Cutover

Wrong Scenario Detected :

- **One Meter can have multiple Volume Correctors**

  Checked the hierarchy like having appropriate volume correctors tied to the meters

- 1171761, 1173123 Asset Numbers have multiple Volume Correctors

	1351955	Volume Corrector, Mercury-Mini-P 0-6#	1185476	1171761			NGRID
	1351956	Volume Corrector, Mercury-MiniMax 0-6#	1185476	1171761			NGRID

	STATUS	EXTERNALREFID	DESCRIPTION	SERIALNUM	PARENT	CLASSSTRUCTUREID	NG_OPCO	NG_MANUFACTURER	NG_MODELNUM
1	ACTIVE		Volume Corrector, Mercury-Mini-ATP 0-60#	12016743	1173123	1063	5360	MC	Mini-ATP 0-60#
2	ACTIVE		Volume Corrector, Mercury-Mini Max P 0-60#	13243409	1173123	1063	5360	MC	Mini Max P 0-60

List View | Asset | Spare Parts | Safety | Meters | Specifications | Work | Service Address | Map

Asset: 1171761 Rotary Meter, Dresser, 3MTD B3 Site: NGRID

Parent:

Subassemblies Filter 1 - 2 of 2

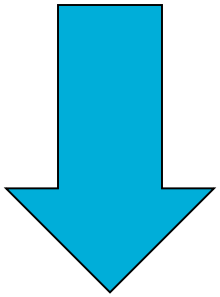
Asset	Description	Location	Description
1351955	Volume Corrector, Mercury-Mini-P 0-6#	1185476	METERPOINT-913658100-42402034-1
1351956	Volume Corrector, Mercury-MiniMax 0-6#	1185476	METERPOINT-913658100-42402034-1

Data Validation / Data Accuracy / Testing

PA 2.3 Cutover

Query capturing Multiple Volume Correctors for One Meter

```
Select    A.ASSETNUM
,A.LOCATION
,B.PARENT
,VCV.vc_status
,VCV.DESCRIPTION
,VCV.evc_no
,VCV.CLASSSTRUCTUREID
,VCV.NG_OPCO
,VCV.MANUFACTURER,
VCV.evc_type
FROM [Volume_Correctors].[VWRI_Volume_Corrector_RI] VCV
      LEFT JOIN [MX].[asset_recon] A ON
                  VCV.[PARENT_EXTERNALREFID] = A.EXTERNALREFID
                   LEFT JOIN [MX].[asset_recon] B ON
                              A.ASSETNUM = B.PARENT AND
                              B.NG_EQTYPE = 'VC'
```



Data Validation / Data Accuracy / Testing

PA 2.3 Cutover

	ASSETNUM	LOCATION	PARENT	vc_status	DESCRIPTION	evc_no	CLASSSTRUCTUREID	NG_OPCO	MANUFACTURER	evc_type
1	1270106	1467200	1270106	ACTIVE	Volume Corrector, Mercury-Mini-ATP 0-60#	212912	1063	5360	MC	Mini-ATP 0-60#
2	1212333	1372667	1212333	ACTIVE	Volume Corrector, Mercury-Mini-atp 0-6#	1062300	1063	5360	MC	Mini-atp 0-6#
3	1247163	1459718	1247163	ACTIVE	Volume Corrector, Mercury-Mini-P 0-6#	13566	1063	5360	MC	Mini-P 0-6#
4	1246608	1188211	1246608	ACTIVE	Volume Corrector, Mercury-Mini AT P0-6	937754	1063	5360	MC	Mini AT P0-6
5	1247198	1292488	1247198	ACTIVE	Volume Corrector, Mercury-Mini-P 0-6#	9403773	1063	5360	MC	Mini-P 0-6#
6	1281633	1299858	1281633	ACTIVE	Volume Corrector, Mercury-Mini-ATP 0-150#	13084097	1063	5360	MC	Mini-ATP 0-150#
7	1281634	1266555	1281634	ACTIVE	Volume Corrector, Mercury-Mini ATP 0-15#	13078236	1063	5360	MC	Mini ATP 0-15#
8	1281639	1444828	1281639	ACTIVE	Volume Corrector, Mercury-Mini P 0-6#	9901886	1063	5360	MC	Mini P 0-6#
9	1169192	1313961	1169192	ACTIVE	Volume Corrector, Honeywell-Mini MAX	13139410	1063	5360	HO	Mini MAX
10	1169193	1240209	1169193	ACTIVE	Volume Corrector, Honeywell-Mini MAX0-100	11046585	1063	5360	HO	Mini MAX0-100
11	1169227	1415763	1169227	ACTIVE	Volume Corrector, Mercury-Mini-ATP 0-100#	11082733	1063	5360	MC	Mini-ATP 0-100#
12	1169232	1379203	1169232	ACTIVE	Volume Corrector, Mercury-Mini-P 0-6#	9403775	1063	5360	MC	Mini-P 0-6#
13	1169099	1343095	1169099	ACTIVE	Volume Corrector, Mercury-MiniMax ATP 0-6#	13190518	1063	5360	MC	MiniMax ATP 0-6
14	1168334	1337276	1168334	ACTIVE	Volume Corrector, Mercury-Mini-PT 0-60#	9610662	1063	5360	MC	Mini-PT 0-60#
15	1168358	1347813	1168358	ACTIVE	Volume Corrector, Mercury-Mini AT-P0-15	522794	1063	5360	MC	Mini AT-P0-15
16	1170205	1400692	1170205	ACTIVE	Volume Corrector, Mercury-Mini ATP 0-60#	1062317	1063	5360	MC	Mini ATP 0-60#

Query executed successfully. | dmapeus2d01-sql.database.wi... | phanso (201) | NGLanding_PA2.3 | 00:00:32 | 666 rows

	ASSETNUM	LOCATION	PARENT	vc_status	DESCRIPTION	evc_no	CLASSSTRUCTUREID	NG_OPCO	MANUFACTURER	evc_type
1	1173123	1461652	1173123	ACTIVE	Volume Corrector, Mercury-Mini-ATP 0-60#	12016743	1063	5360	MC	Mini-ATP 0-60#
2	1173123	1461652	1173123	ACTIVE	Volume Corrector, Mercury-Mini-ATP 0-60#	12016743	1063	5360	MC	Mini-ATP 0-60#
3	1173123	1461652	1173123	ACTIVE	Volume Corrector, Mercury-Mini Max P 0-60#	13243409	1063	5360	MC	Mini Max P 0-60
4	1173123	1461652	1173123	ACTIVE	Volume Corrector, Mercury-Mini Max P 0-60#	13243409	1063	5360	MC	Mini Max P 0-60

Data Validation / Data Accuracy / Testing

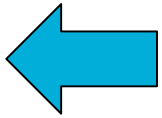
PA 2.3 Mock 3 & Cutover

- Built SQL Queries to create a customized view of the columns from various tables using joins and then navigated on to Salesforce UAT Environment and validated data for each Customer (Residential and Commercial), Billing Account and Premise Profile

- Below are the few queries which I built by joining various tables following the get calls document

Data Validation / Data Accuracy / Testing

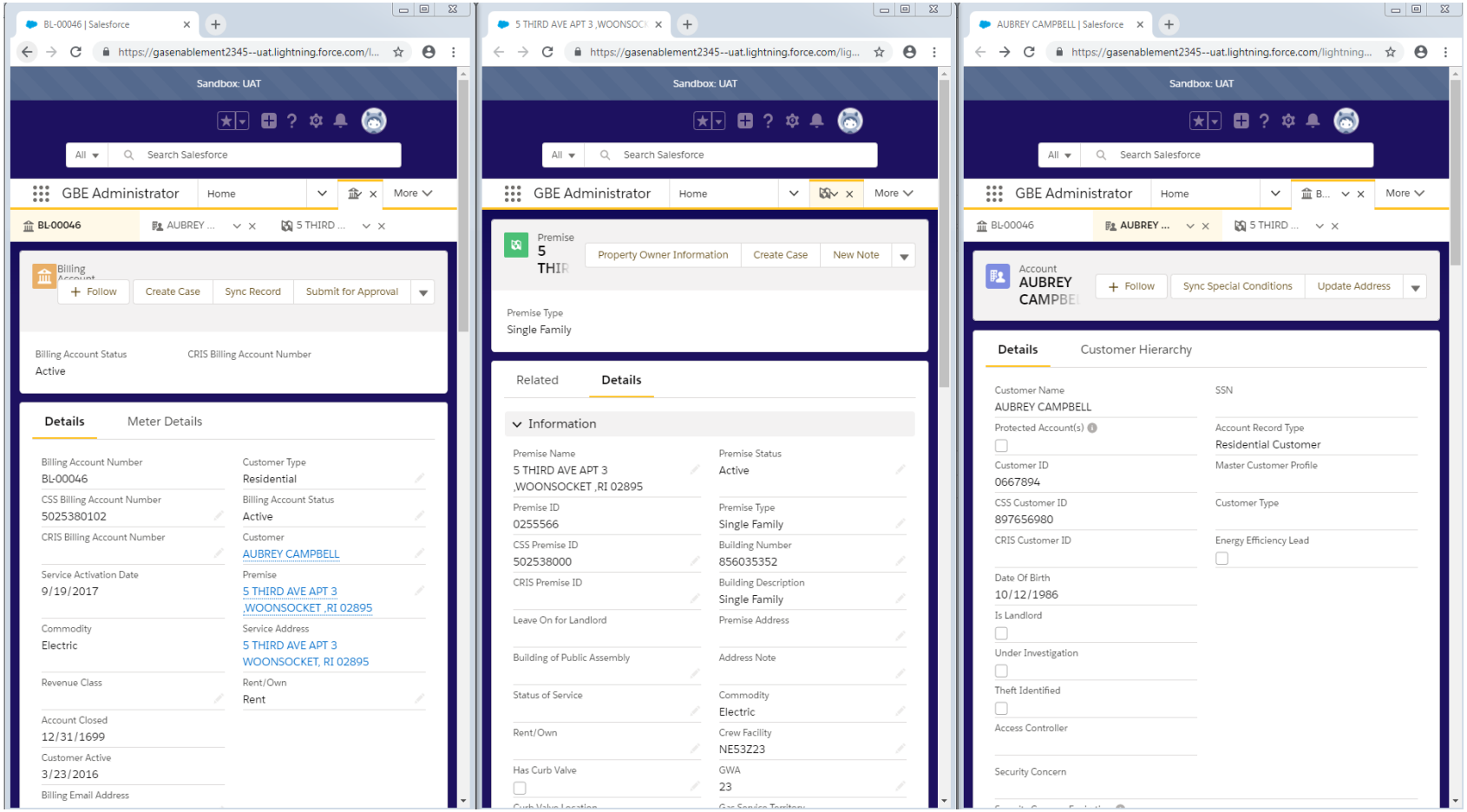
```
/****** Customer Profile  ******/
SELECT       SAD.[KY_CUST_NO]
                              ,SAD.[NM_COMPRESSED]
                              ,SAD.[NM_CUST_1ST_1]
                              ,SAD.[NM_CUST_MID_1]
                              ,SAD.[NM_CUST_LST_1]
                              ,Cust.[TX_HOME_ACD]
                              ,Cust.[TX_HOME_PHN_NO]
                              ,Cust.[TX_HOME_PHN_EXTN]
                              ,Cust.[TX_BUS_ACD]
                              ,Cust.[TX_BUS_PHN_NO]
                              ,Cust.[TX_BUS_PHN_EXTN]
                              ,Cust.[CD_CUST_TYPE]
                              ,demo.[DT_CUST_BIRTH]
                              ,SAD.[KY_SSN]
                              ,adr.[AD_LN]
                              ,bacustcr.[DT_TEMP_MAIL_END]
                              ,bacustcr.[DT_TEMP_MAIL_START]
                              ,Cust.[NO_LOCK_SEQ_CUST]
  FROM [CSS].[CU01TB01_SAD] as SAD
  inner join [CSS].[CU03TB01_CUSTOMER] as Cust
  on SAD.[KY_CUST_NO] = Cust.[KY_CUST_NO]
  inner join [CSS].[CU03TB19_CUST_DEMO] as demo
  on Cust.[KY_CUST_NO] = demo.[KY_CUST_NO]
 inner join [CSS].[CU02TB02_ADDRESSES] as adr
  on SAD.[KY_AD] = adr.[KY_AD]
  inner join [CSS].[CU03TB07_BACUSTCR] as bacustcr
  on SAD.[KY_BA] = bacustcr.[KY_BA]
  where SAD.[KY_CUST_NO] = 866002791
```



- Here we need to actually look into the mapping document and spot check by applying joins .
- Mapping Documents helped me understand the conversions taken place for various fields

Data Validation / Data Accuracy / Testing

Screenshots of Validations Performed:



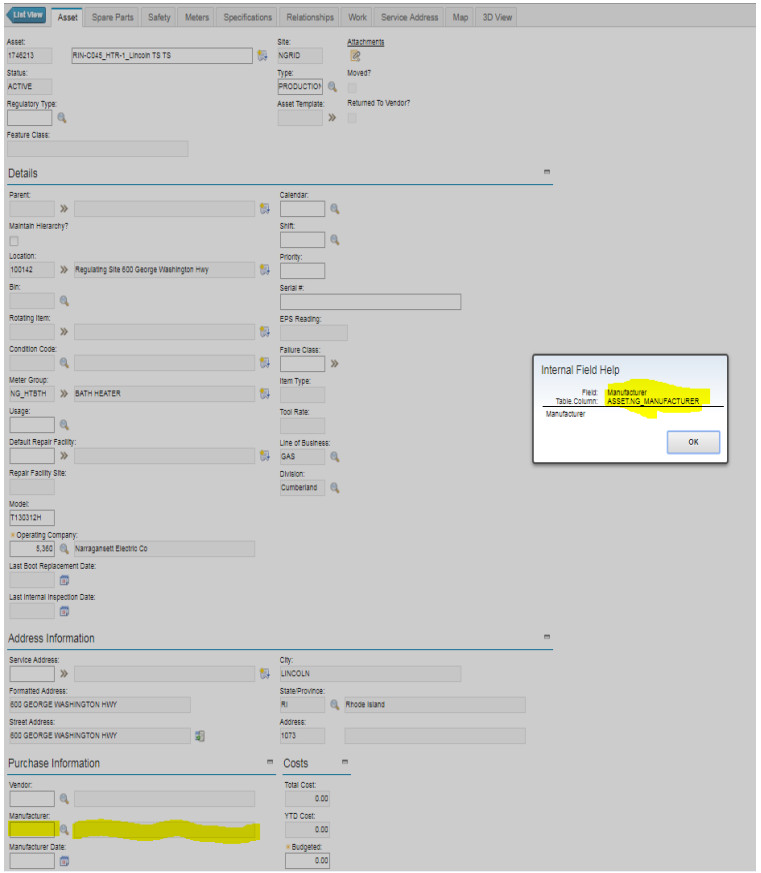
Data Validation / Data Accuracy / Testing

PA 2.3 Mock 3 I&R Assets

Source NG_Landing

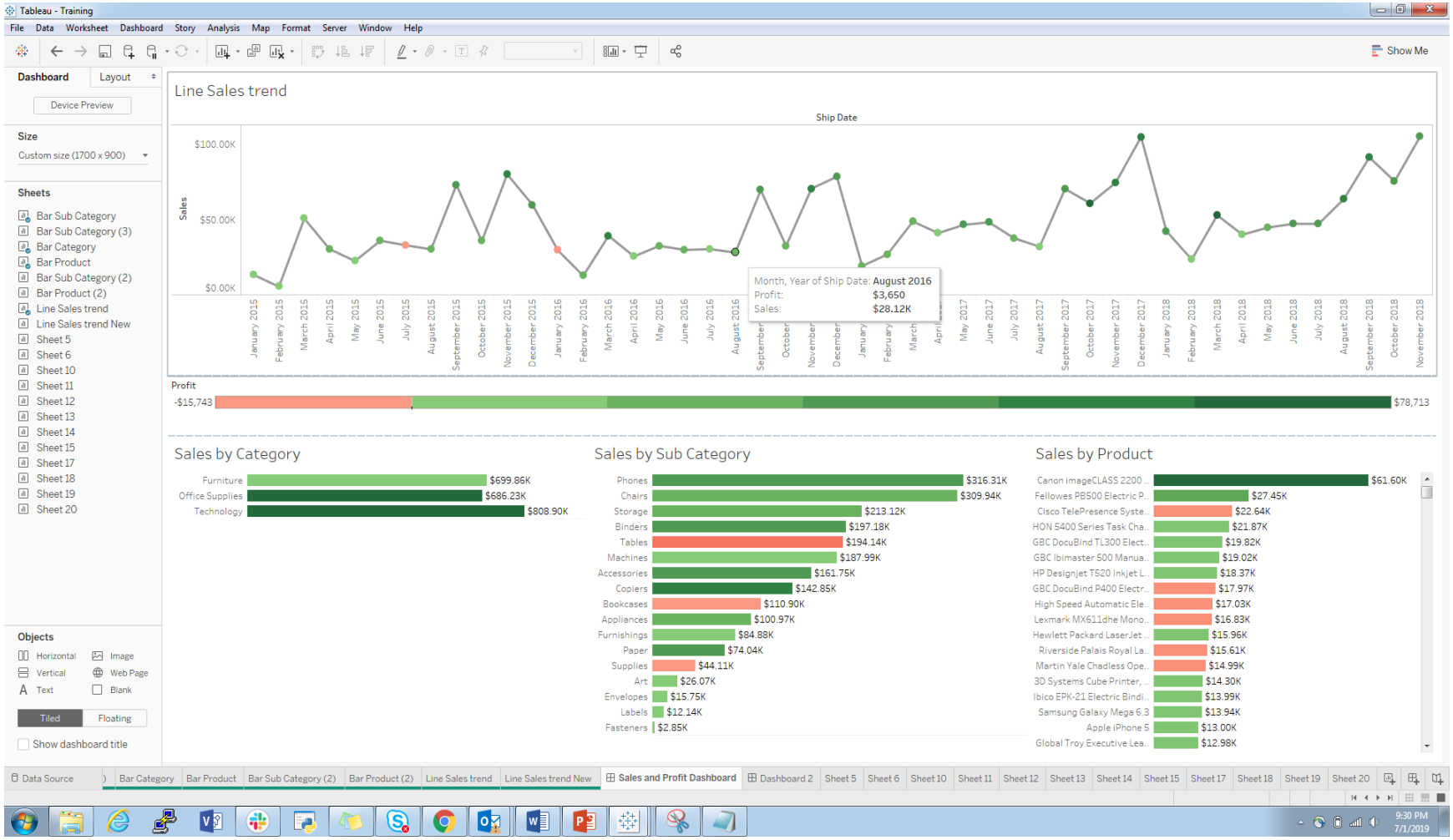
	iption	StartDescription_LongDescription	StartMeasure	Status	Siteid	NG_LOB	NG_OPCO	NG_MANUFACTURER	NG_MODELNUM	NG_ORDERNUMBER	PLUS
1		NULL	NULL	ACTIVE	NULL	GAS	5360	TE	T130312H	NULL	NULL

Target Maximo



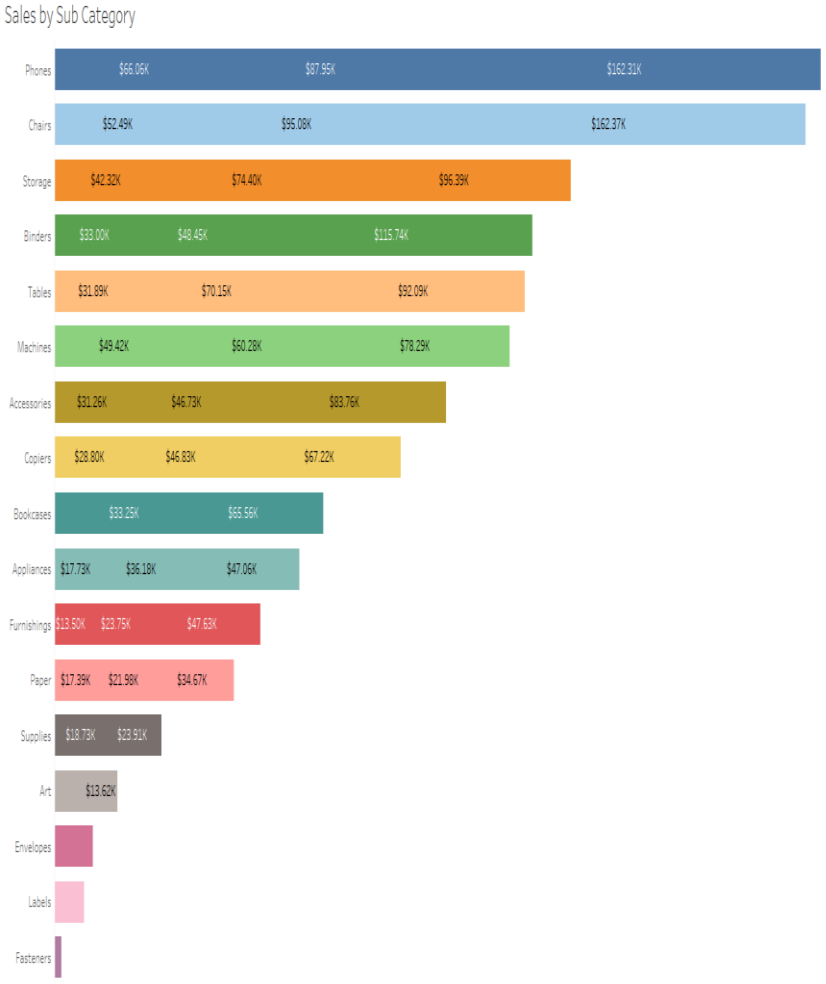
Learning Outcome – Tableau Training (Reswoods)

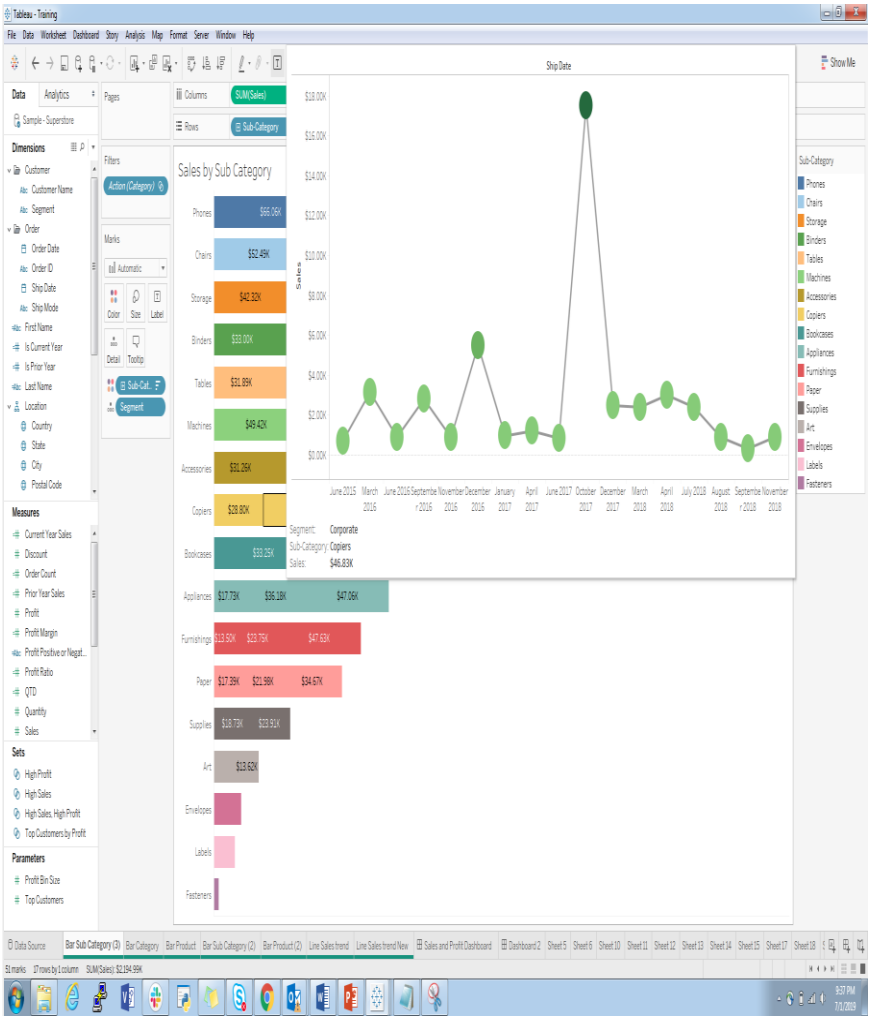
Dashboard Creation



Learning Outcomes – Tableau Training

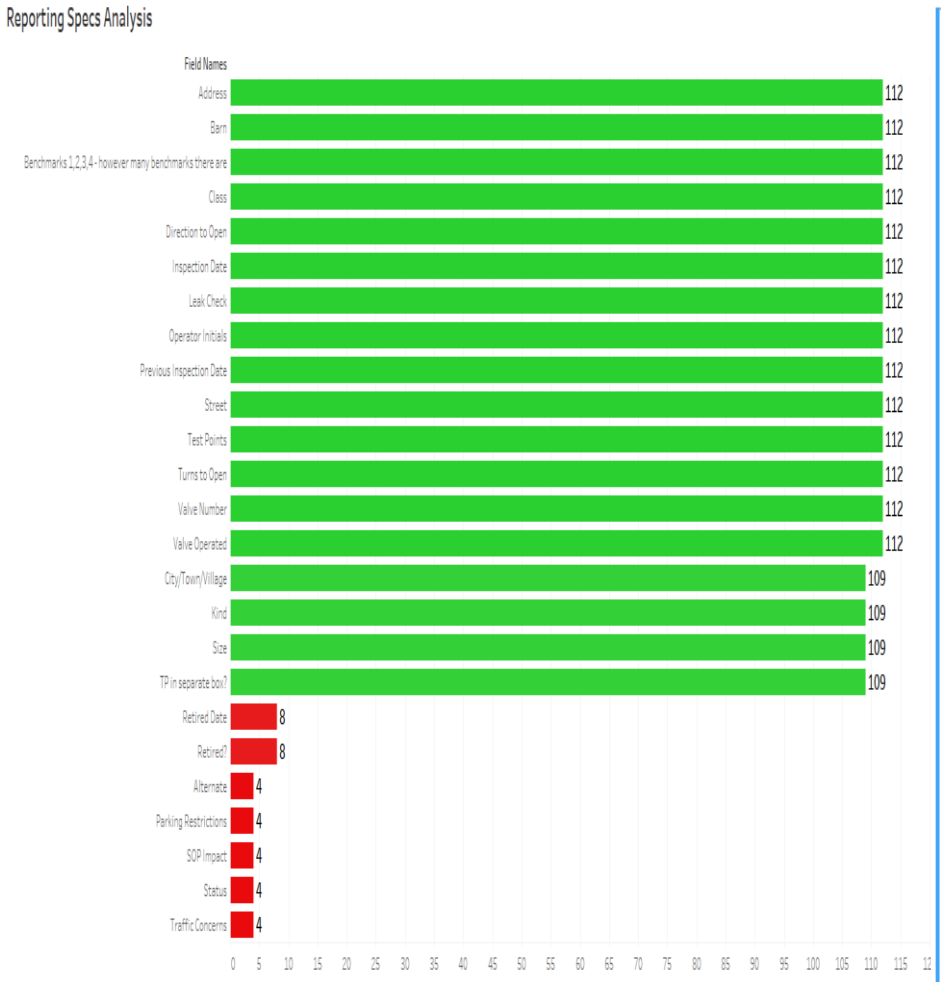
Insights From Data Visualization





Helping Tool Preparation

Tableau



Python

```
In [20]: data.FieldNames.value_counts()

Out[20]: Barn                                          112
         Leak Check                                    112
         Address                                       112
         Street                                        112
         Valve Number                                  112
         Previous Inspection Date                      112
         Valve Operated                                112
         Class                                         112
         Operator Initials                             112
         Test Points                                   112
         Direction to Open                             112
         Turns to Open                                 112
         Benchmarks 1,2,3,4 - however many benchmarks there are  112
         Inspection Date                               112
         City/Town/Village                             109
         Kind                                          109
         Size                                          109
         TP in separate box?                           109
         Retired?                                        8
         Retired Date                                    8
         Alternate                                       4
         Status                                          4
         SOP Impact                                      4
         Traffic Concerns                                4
         Parking Restrictions                            4
         Name: FieldNames, dtype: int64
```

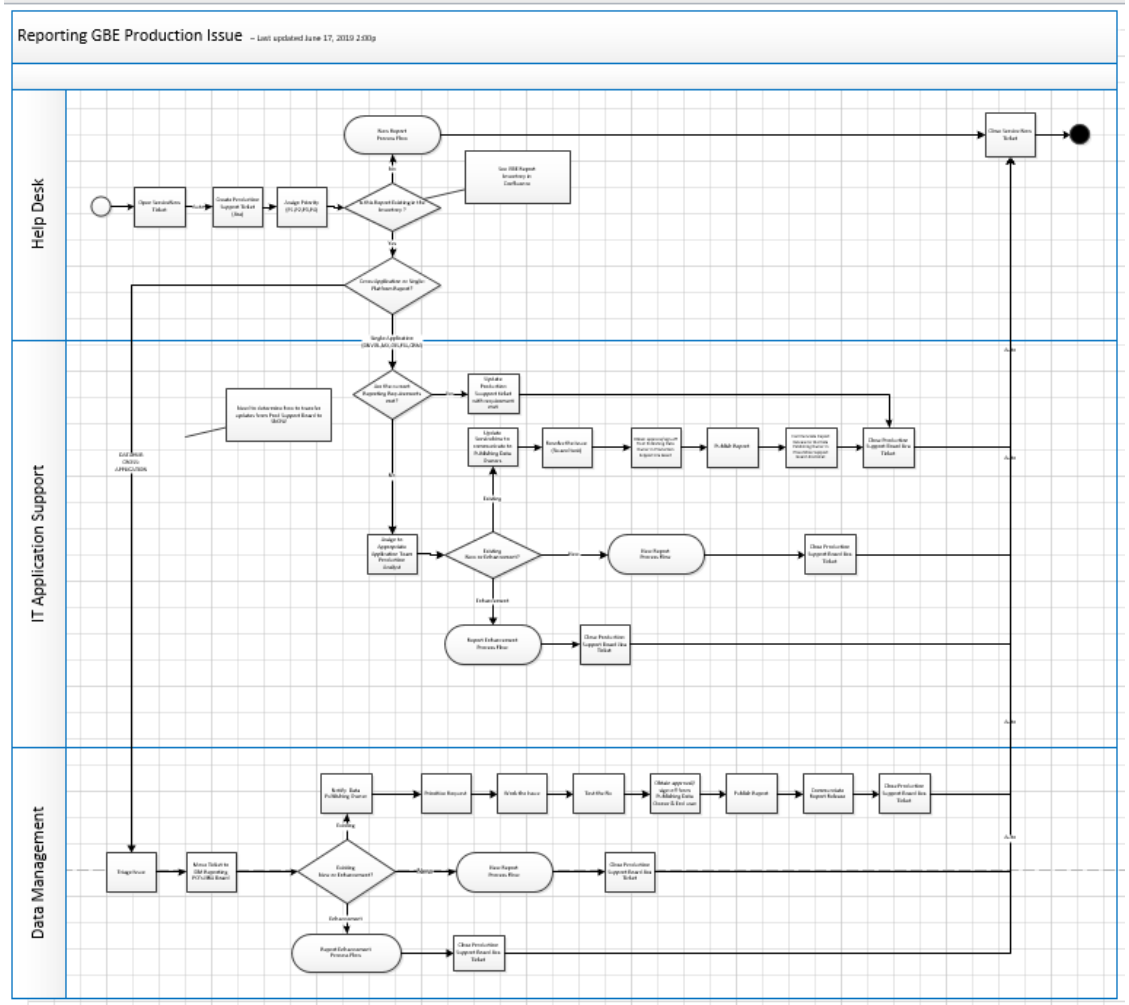
Reporting Process Flows

- Set up a start to end structure for the following :

1. Creating a new report
2. Enhancing a Report
3. Reporting a Production Issue
4. Access to Reports

Reporting Process Flows

- URL : https://nationalgrid.app.box.com/file/462192218928 for all the flows



Learning Outcomes

- Information and practical session on Data Profiling and Data Quality Scorecards
- Learned to use AgileCraft and Attlassian Jira
- Understood the way an architect puts his mind into thinking about the process flows
- Also got an opportunity to work in Sprints and understand the importance of Program Increments(PI)
- Worked in Program Anchor(PA) which helped me understand the importance of Mocks, Dev Environments and Production
- Got to Attend ,Learn and Perform hands on Git and SourceTree
- Also got an opportunity to improvise my Data Visualization Skills (Tableau and PowerBI) in the form of Trainings organized by National Grid
- Learned the importance of Data Accuracy while performing Data Validations.
- Thumb Rule to Remember : Any Data Loss is Dangerous, therefore this step is very important after data conversions

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