Questions for Meeting:

GMT – time data was collected

Compressor? Machine?

ID column – what correlates with what? Primary key for which data table?

Is each ID in events a different instance of machine being disconnected and device ID is the one machine?

| | | | |
|---|---|---|---|
| **rtc** | String | | Current time on the VSC device in "YYYY-mm-dd HH:MM:SS" format and UTC time zone. |

Rtc – time to the time-zone

Regional time – Reflective of where it is in the time zone ^ - base all times off GMT?

| | | | |
|---|---|---|---|
| **b<barrel_number>_seal** | Number | | Total barrel <barrel number> seal life time in seconds |

| | | | |
|---|---|---|---|
| **c1_cyclces** | Number | | Total compressor 1 run count |

^ will get answers for both variables and b1_fill_cycle variable

Run count in seconds? Since GMT? ^

_Index_level_0_ ????

Gateway state vs device state?

Message:

| | | | |
|---|---|---|---|
| **time** | String | | Date and time in seconds since the Unix Epoch according to the Viper |

Events:

“type” column – Gateway State and Device State – useful info? Not needed?

In data dictionary is says:

| | | | |
|---|---|---|---|
| **module** | Number | | Module that generated error code. Always 7 for Viper, other values are reserved and should be ignored. |

Module 7 use

Totals Table-

- What is the difference between compressor 1 and compressor 2?
- Calculate the time machine being used, and the time that it has an error

**DOCUMENTATION**

- Only looking at instances of module 7 in messages (instances with Viper Machines) all other modules are ignored
- Only looking at data instances with Device_ID between 1-97 (all other Devices are void from data)
- No expected value or starting value of liquid being poured – we have to find
- Zeros are devices that were going to be put into the store but were not. Ignore those instances – Device_Store_Customer_Mapping Data
- Remove columns: element, time?, type?, module, text, Index_level??, Seal Variables
- In the locations excel sheet, removed device_ids that have a 0 for store_id.
- Stopped working with the store locations to find a broader overall value for defrost, lack of product time, and time at 100% occupancy.
- Started loading in the parquet files into R to include all the data.
- In the code we focused on the msgs “7001”, “7005”, “7009”, “7024”, “7028”, “7032”, “7040”, “7044”, “7050”, “7055”.
- Used these devices "19", "20", "21", "22", "23", "25", "26", "27", "28", "29", "30", "32", "33", "34", "35","36", "37", "38", "39", "40", "41", "42", "43", "44", "45", "46", "47", "48", "50", "51", "52", "53", "55", "56", "57", "58", "60", "61", "62", "64", "65", "66", "94", "96", "97"

USE SYRUP FILL CHANGE TO FIND 100% OCCUPANCY

Fill/time is current occupancy

fill/(time-defrost-syrup)

Other info

- Defrosting cycle about 3 mins – can be different for each barrel
- Average seconds poured, find baseline
- Find average seconds poured from machines when a barrel is down, is there an increase or decrease in seconds poured when one barrel is down?
- Use b1_motor

- Start with the first instance of time in the data rather than using past data.
- They want to enforce the value of filling syrup right away, some fill times are long, others are short. 90%~ of error are from syrup out
- Does the usage go down if one of the flavors goes out?
- If barrel one is down did barrel two get more usage?
- Separate errors, between syrup errors and other machine errors.
- Tie it back into business decision – with whatever analysis we find
- Customer that will drink soda, customer of the business, and customer of Marmon
- Will ask hard questions on final presentation
- In findings, which error is happening most (maybe aside from syrup)
- Could use the text table also to help merge the data.
- Cluster out errors resolved quickly (1 minute or less)
- DO NOT cluster out errors that aren't resolved for longer times

Looking at specific store_id:

- Total value metric across whole store
- Analysis on error codes – which are most common, is there a pattern, how does this affect value
- Does usage of one barrel increase when another barrel is down, how does this affect total value metric
- Any other interesting insights

Current ratio

Ideal Ratio

Ratio defrost

Ratio Syrup out

Ratio with both defrost and syrup out