

## About

Product Performance Dashboards originally were created manually in Excel and it took more than a week each month. Now they are refreshed daily, automatically.

There are more than 50 very complex calculations based on analyzing transactional data, analytical functions, different levels of aggregation and sophisticated capping rules.

The calculation is performed in Redshift stored procedures, views and Tableau dashboards.

My typical project:

- work with a business owner to get requirements/calculations/ideas
- add new or re-use existing fact tables/measures in Redshift data warehouse
- create Tableau dashboard
- reconcile data
- document in the workbook directly, documents in SharePoint, or in Atlan (Data Catalog)
- support and enhance

Process

	Source Data	Source Data	PPD Intermediate table	PPD Reporting table	PPD Reporting table
Claims	Mix of WINs and SPINN data with adjustments of amounts if a claim is present in both systems	Montly summaries of public.vmfact_claimtransaction_blended	Claims data monthly summaries. There are some conversions in metrics and dimensional information comparing to the source table.	PPD Claim monthly metrics. The same dimensionality as in ppd_claim_summaries, just dozens of complex metrics. It's used in a detail report via view.	PPD Claims aggregated metrics per month, product, subproduct, catastrophe flag and peril group. All of these dimensions are specific for PPD
	public vmfact claimtransaction blended >>>>	public vmfact claim blended >>>>	reporting ppd claim summaries >>>>	reporting ppd claims >>>>	reporting ppd losses
	There is a major condition to include .reportng.vppd_Claims_Details				
Policies	fsbi_dw_spinn. Fact_policycoverage >>>>		reporting ppd_policies_summaries		
			PPD Policies aggregated metrics (Earned Premium and exposures) per month, product, subproduct. There is the same logic for product and subproduct as in Claims.		
Configuration	Coverages/Feature mapping in SPINN Coverages/Feature mapping in WINs Product Configuration for Losses Product Configuration for Premiums and PIF		public.dim_coverageextension fsbi_dw_wins.ppd_feature_map_wins reporting.vppd_loss_product_mapping vppd_premium_product_mapping		

## EE based coverages

Product/Subproduct	EE
<b>ALPD</b>	based on COMP coverage or COLL if COMP is missing
<b>ALOTHER (AL excluding BI)</b>	based on BI coverage
<b>AL</b>	based on BI coverage
<b>AL BI</b>	based on BI coverage
<b>PersonalAuto</b>	based on BI coverage
<b>Home</b>	based on CovA or CovC in the case of HO4 or HO6
<b>Dwelling</b>	based on CovA
<b>Home Liability</b>	based on CovA or CovC in the case of HO4 or HO6
<b>Dwelling Liability</b>	based on CovA
<b>All</b>	sum of EE from a specific product
<b>Commercial</b>	based on 'CUMBR','BLDG' coverages

## Calculations

Calculation	Formula	Aggregation level	Calculation Level	Calculation location	Source
total_incurred_loss	loss_paid + loss_reserve + aoo_paid + dcc_paid + aoo_reserve + dcc_reserve - salvage_received - subro_received	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
loss_incurred	loss_paid + loss_reserve	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
alae_incurred	aoo_paid + dcc_paid + aoo_reserve + dcc_reserve	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
alae_paid	aoo_paid + dcc_paid	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
salsub_incurred	salvage_received + salvage_reserve + subro_received + subro_reserve	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
salsub_received	salvage_received + subro_received	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
total_reserve	loss_reserve + aoo_reserve + dcc_reserve	month_id, claim_number, claimant, cat_flg, perilgroup, product,rag,feature_type,feature _map	1	reporting.ppd_claim_summaries	public.vmfact_claim_blended
feat_cumulative_total_incurred_loss	cumulative sum of total_incurred_loss (feature map level)	claim_number,rag,feature_type, feature_map,claimant order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
feat_cumulative_total_reserve	cumulative sum of total_reserve	claim_number,rag,feature_type, feature_map,claimant order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
feat_cumulative_loss_incurred	cumulative sum of loss_incurred	partition by claim_number,rag,feature_type, feature_map,claimant order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
feat_reported_count	case when <a href="#">feat_cumulative_total_incurred_loss</a> >= 0.5 then 1 else 0 end	claim_number,rag,feature_type, feature_map,claimant	2	reporting.ppd_claims	ppd_claim_summaries

## Calculations

feat_closed_count	case when <i>feat_cumulative_total_incurred_loss</i> >= 0.5 and <i>feat_cumulative_total_reserve</i> < 0.5 then 1 else 0 end	claim_number,rag,feature_type, feature_map,claimant	2	reporting.ppd_claims	ppd_claim_summaries
feat_open_count	greatest( <i>feat_reported_count</i> - <i>feat_closed_count</i> ,0)	claim_number,rag,feature_type, feature_map,claimant	2	reporting.ppd_claims	ppd_claim_summaries
feat_reported_count_100k	case when <i>feat_cumulative_total_incurred_loss</i> > 100000 then 1 else 0 end	claim_number,rag,feature_type, feature_map,claimant	2	reporting.ppd_claims	ppd_claim_summaries
clm_cumulative_total_incurred_loss	cumulative sum of total_incurred_loss	partition by claim_number,rag,feature_type order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
clm_cumulative_loss_incurred (claimant level)	cumulative sum of loss_incurred	partition by claim_number,rag,feature_type order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
clm_cumulative_alae_incurred (claimant level)	Cumulative sum of alae_incurred	partition by claim_number,rag,feature_type order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
feat_cumulative_alae_incurred (feature map level)	Cumulative sum of alae_incurred	partition by claim_number,rag,feature_type, feature_map,claimant order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
clm_cumulative_salsub_received	Cumulative sum of salsub_received	partition by claim_number,rag,feature_type order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
feat_cumulative_salsub_received (feature map level)	Cumulative sum of salsub_received	partition by claim_number,rag,feature_type, feature_map,claimant order by month_id	2	reporting.ppd_claims	ppd_claim_summaries
ratio	case when cast( <i>clm_cumulative_total_incurred_loss</i> as float)=0 then 0 else cast( <i>feat_cumulative_total_incurred_loss</i> as float)/cast( <i>clm_cumulative_total_incurred_loss</i> as float) end	claim_number,rag,feature_type, feature_map,claimant,month_id	3	reporting.ppd_claims	ppd_claim_summaries
clm_capped_cumulative_total_incurred_loss	least( <i>clm_cumulative_total_incurred_loss</i> , 100000)	partition by claim_number,rag,feature_type order by month_id	3	reporting.ppd_claims	ppd_claim_summaries

Calculations

feat_capped_cumulative_total_in	<pre>case when   clm_cumulative_total_incurred_   loss &gt; 100000 then     ratio * clm_capped_cumulative_t     otal_incurred_100k   else     feat_cumulative_total_incurred_     loss   end</pre>	claim_number,rag,feature_type, feature_map,claimant,month_id	4	reporting.ppd_claims	ppd_claim_summaries
feat_total_incurred_loss (feature	<pre>total_incurred_loss</pre>	claim_number,rag,feature_type, feature_map,claimant,month_id	2	reporting.ppd_claims	ppd_claim_summaries
feat_capped_cumulative_loss_in	<pre>case when   clm_cumulative_total_incurred_   loss &gt; 100000 then     case when       cast(clm_cumulative_total_incur       red_loss as float)=0 then 0 else       feat_capped_cumulative_total_i       ncurred_100k *(cast(clm_cumul       ative_loss_incurred as       float)/cast(clm_cumulative_total       _incurred_loss as float)) end     else       feat_cumulative_loss_incurred     end</pre>	claim_number,rag,feature_type, feature_map,claimant,month_id	4	reporting.ppd_claims	ppd_claim_summaries

## Calculations

	case when <i>clm_cumulative_total_incurred_loss</i> > 100000 then case when cast( <i>clm_cumulative_total_incurred_loss</i> as float) = 0 then 0 else <i>feat_capped_cumulative_total_incurred_100k</i> * (cast( <i>clm_cumulative_alae_incurred</i> as float) / cast( <i>clm_cumulative_total_incurred_loss</i> as float)) end else <i>feat_cumulative_alae_incurred</i> end	claim_number, rag, feature_type, feature_map, claimant, month_id	4	reporting.ppd_claims	ppd_claim_summaries
feat_capped_cumulative_alae_in					
	case when <i>clm_cumulative_total_incurred_loss</i> > 100000 then case when cast( <i>clm_cumulative_total_incurred_loss</i> as float) = 0 then 0 else <i>feat_capped_cumulative_total_incurred_100k</i> * (cast( <i>clm_cumulative_salsub_received</i> as float) / cast( <i>clm_cumulative_total_incurred_loss</i> as float)) end else <i>feat_cumulative_salsub_received</i> end	claim_number, rag, feature_type, feature_map, claimant, month_id	4	reporting.ppd_claims	ppd_claim_summaries
feat_capped_cumulative_salsub_in					
total_incurred	Month <i>feat_total_incurred_loss</i>	month_id, Product, subproduct, cat_flag, perilgroup	5	reporting.ppd_losses	reporting.ppd_claims

## Calculations

total_incurred_capped_100k	Difference between current and previous month : <i>feat_capped_cumulative_loss_in_curred_100k + feat_capped_cumulative_alae_incurred_100k - feat_capped_cumulative_salsub_received_100k</i>	month_id,Product,subproduct,catastrophe,perilgroup	5	reporting.ppd_losses	reporting.ppd_claims
reported_count	Difference between current and previous month <i>feat_reported_count</i>	month_id,Product,subproduct,catastrophe,perilgroup	5	reporting.ppd_losses	reporting.ppd_claims
open_count	Month <i>feat_open_count</i>	month_id,Product,subproduct,catastrophe,perilgroup	5	reporting.ppd_losses	reporting.ppd_claims
reported_count_100k	Difference between current and previous month <i>feat_reported_count_100k</i>	month_id,Product,subproduct,catastrophe,perilgroup	5	reporting.ppd_losses	reporting.ppd_claims
EP	Earned Premium. SUM of EP of all applicable to the product definition coverages. See BI Wiki <a href="https://cseinsurance.sharepoint.com/:x:/s/BI/EVM0nxx8UalBtPgC_2rSkQ8BK0ybAw__89BJhwX5ZWaUXQ?e=ckJS8K">https://cseinsurance.sharepoint.com/:x:/s/BI/EVM0nxx8UalBtPgC_2rSkQ8BK0ybAw__89BJhwX5ZWaUXQ?e=ckJS8K</a> for details	month_id,Product,subproduct	5	reporting.ppd_policies_summaries	fsbi_dw_spinn.fact_policycoverage
EE	Earned Exposures Rm See EE based coverages tab for more details and BI Wiki <a href="https://cseinsurance.sharepoint.com/:p:/s/BI/EcoMfEAEIlgGq5pztZOoIDMBRyHl17zVawUKM5vaHbO_OQ?e=mQA6M7">https://cseinsurance.sharepoint.com/:p:/s/BI/EcoMfEAEIlgGq5pztZOoIDMBRyHl17zVawUKM5vaHbO_OQ?e=mQA6M7</a> for details	month_id,Product,subproduct	5	reporting.ppd_policies_summaries	fsbi_dw_spinn.fact_policycoverage
PIF	INF status and positive SUM Inforced Amount (case when s.polst_statuscd = 'INF' and sum(f.term_prem_amt_itd)>0 then po.pol_policynumber else null end)	month_id,Product,subproduct	5	reporting.ppd_policies_summaries	fsbi_dw_spinn.fact_policycoverage
Frequency	reported_count/EE	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses



## Calculations

RA Frequency	12 month running average Frequency	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Gross Incurred Severity	total_incurred/reported_count	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
RA Gross Incurred Severity	12 month running average Gross Incurred Severity	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Gross Incurred PurePremium	total_incurred/EE	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
RA Gross Incurred PurePremium	12 month running average Gross Incurred PurePremium	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Gross Incurred Loss Ratio	total_incurred/EP	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
RA Gross Incurred Loss Ratio	12 month running average Gross Incurred Loss Ratio	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Capped Incurred Severity	total_incurred_capped_100k/reported_count	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
RA Capped Incurred Severity	12 month running average Capped Incurred Severity	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Capped Gross Incurred Loss Ratio	total_incurred_capped_100k/EP	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
RA Capped Gross Incurred Loss Ratio	12 month running average Capped Gross Incurred Loss Ratio	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses

## Calculations

Inventory	open_count	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Open Count per PIF	open_count/PIF	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Large Loss Count	reported_count_100k	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
RA Large Loss Count	12 month running average Large Loss Count	12 Month Period, Product, Catastrophe, Peril Group	6	Tableau	join of reporting.ppd_policies_summaries and reporting.ppd_losses
Incurred This Month	incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_total_incurred_loss
Indemnity This Month	loss_incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_loss_incurred
ITD Indemnity	cumulative_loss_incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.cumulative_loss_incurred
ALAE This Month	alae_incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_alae_incurred
ITD ALAE	cumulative_alae_incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_cumulative_alae_incurred
Indemnity + ALAE This Month	loss_alae_incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_loss_incurred + reporting.ppd_claims.feat_alae_incurred
ITD Indemnity + ALAE	cumulative_loss_alae_incurred	N/A	6	Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_cumulative_loss_incurred + reporting.ppd_claims.feat_cumulative_alae_incurred

Calculations

	<div>case when feat_reported_count_current_m onth=1 and feat_reported_count_prev_mont h=1 then 'Reported in prior months' when feat_reported_count_current_m onth=0 and feat_reported_count_prev_mont h=0 then 'Reported in prior months' when feat_reported_count_current_m onth=1 and feat_reported_count_prev_mont h=0 then 'Reported in current month' when feat_reported_count_current_m onth=0 and feat_reported_count_prev_mont h=1 then 'Closed No-Pay in current month' end isreported,</div>				
is Reported		N/A		6 Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims
is Open	open_count	N/A		6 Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_open _count
is Large Losses	reported_count_100k	N/A		6 Monthly Claims details Tableau dashboard / reporting.vppd_Claims_Details	reporting.ppd_claims.feat_repor ted_count_100k