SolveXia

Motor Industry – Rules Based Data Collection

Client:
Provider of administrative services to over 200 motor vehicle dealerships across Australia.

Problem:
Need to combine data from all of the dealerships each month (200+ files). Data sourced from different systems/vendors in inconsistent formats.

Solution:
Rules-based solution to append all of the data together, apply transformations and perform validation checks – that can be maintained entirely by the business.
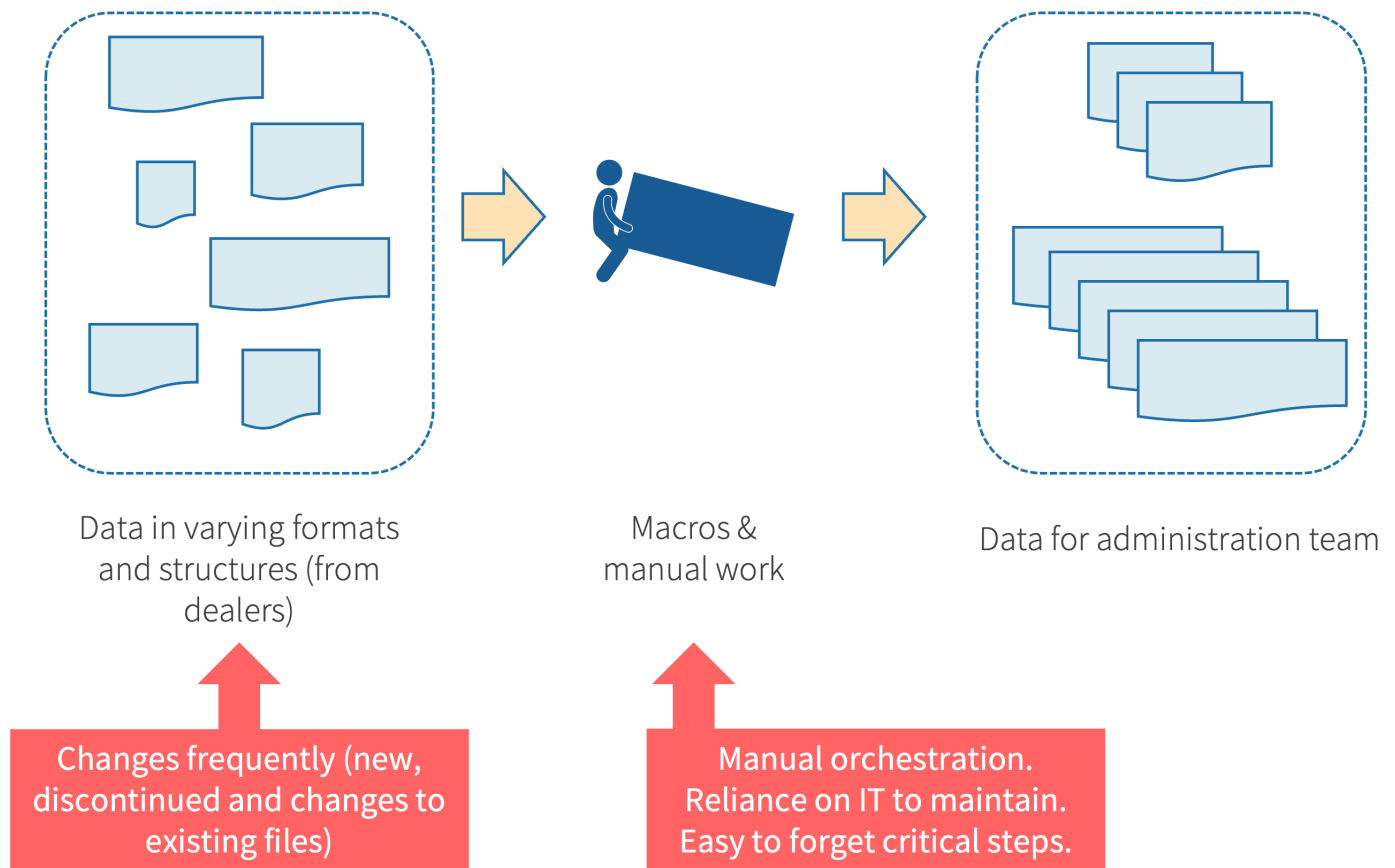
Before:
- Script based solution for transforming the data. Heavy reliance on IT for maintenance.
- Difficult and time consuming to scale (for new dealerships).
- Reliance on manual orchestration of process with possible inconsistencies each month (e.g. steps being forgotten).
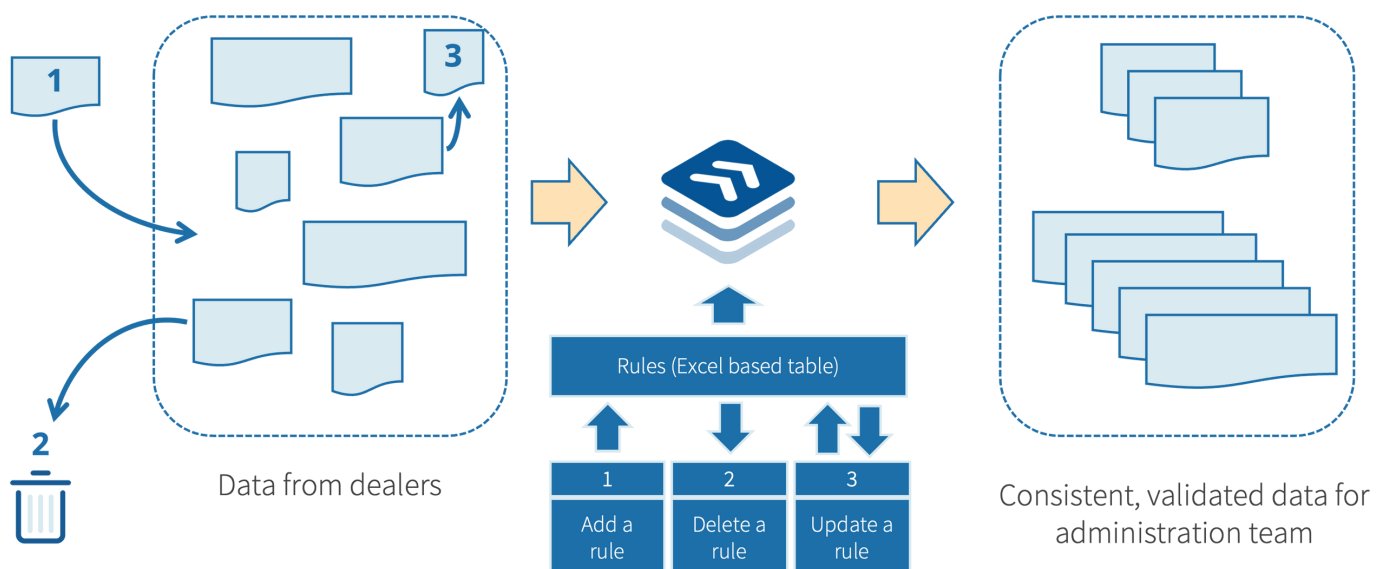
After:
- Simple, Excel based table captures all of the rules for transforming data. Managed by business, not IT.
- New dealers can be added in minutes by updating the rules table.
- Automated orchestration ensuring that every transformation and validation is executed in the expected way and in the correct order.

MANUAL PROCESS

Data in varying formats and structures (from dealers)

Macros & manual work

Data for administration team

Changes frequently (new, discontinued and changes to existing files)

Manual orchestration. Reliance on IT to maintain. Easy to forget critical steps.

AUTOMATED SOLUTION

1

3

2

Data from dealers

Rules (Excel based table)

1	2	3
Add a rule	Delete a rule	Update a rule

Consistent, validated data for administration team

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RULES TABLE – CONSOLIDATION OF FILES

filename	custID	customer	rego	ref	stock
Dealer2.csv	Cust ID	Customer Name	Rego	Contract#	Stock#
Dealer3.csv	Cust ID	Customer Name	Rego	Contract#	Stock#
Dealer4.csv	Cust ID	Customer Name	Rego	Contract#	Stock#
Dealer5.csv	Cust ID	Customer Name	Rego	Contract#	Stock#
Dealer6.csv	driver	customer_name	reg	ref	stock_no
Dealer7.csv	Customer#	Customer Name	License#	Service Contract#	Stock#
Dealer8.csv	01.CUST#	Customer Name	License#	Service Contract#	Stock#
Dealer9.csv	Customer#	Customer Name	License#	Service Contract#	Stock#
Dealer10.csv	01.CUST#	Customer Name	License#	Service Contract#	Stock#
Dealer11.csv	Customer#	Customer Name	License#	Service Contract#	Stock#
Dealer12.csv	Customer#	Customer Name	License#	Service Contract#	Stock#
Dealer13.csv	Customer#	Customer Name	License#	Service Contract#	Stock#

Users define how columns from each file (collected from the dealers) should be aligned and consolidated. Columns can be identified by the header name or by their position in the file.

RULES TABLE – CONDITIONAL TRANSFORMATION OF DATA

Rule ID	Rule	Filename (leave blank to apply to all files)	Field to change	Change when	Is	Value (Leave blank for ''. Use % for wildcards)	Change to	Value or function
[S1]	Contracts that have two emails	Dealer18.csv	Email	Email	=		Another field	Other2
[S2]	Street 1 has unit number	Dealer11.csv	street1	street1	Like	Unit%	Another field	street1 + ',' + street2
[S3]	Clear contents of street 2 for records with "unit"	Dealer11.csv	street2	street1	Like	Unit%	Value	
[S4]	Use second phone number when mobile is blank	Dealer2.csv	mobile	mobile	=		Another field	Other1
[S5]	Use second phone number when mobile is blank	Dealer3.csv	mobile	mobile	=		Another field	Other1
[S6]	Use second phone number when mobile is blank	Dealer4.csv	mobile	mobile	=		Another field	Other1
[S7]	Use second phone number when mobile is blank	Dealer5.csv	mobile	mobile	=		Another field	Other1
[S8]	Use second phone number when mobile is blank	Dealer8.csv	mobile	mobile	=		Another field	Other1
[S9]	Use second phone number when mobile is blank	Dealer10.csv	mobile	mobile	=		Another field	Other1
[S10]	Use second phone number when mobile is blank	Dealer12.csv	mobile	mobile	=		Another field	Other1
[S11]	Use second phone number when mobile is blank	Dealer16.csv	mobile	mobile	=		Another field	Other1
[S12]	Use second phone number when mobile is blank	Dealer17.csv	mobile	mobile	=		Another field	Other1

Users can specify transformations to the data. Each rule allows the user to pick a field to change and various conditions under which the change should occur.

e.g. The first rule (S1) populates any blank email addresses using a value from another field in the dealers data ("Other2").

RULES TABLE – VALIDATIONS

Rule ID	Rule	Field	Check type	Value	In event of error
[V1]	Mobile phone numbers start with "04"	mobile	Starts with	04	Log and continue
[V2]	Email address contains "@"	email	Contains	@	Log and continue
[V3]	Postcode is four characters	postcode	Length	4	Log and continue
[V4]	VIN is seventeen characters	vin	Length	17	Log and continue

Users can specify validations to perform on the data and the action to be taken when errors are found, including logging and continuing the process or stopping the process (for critical issues).

KEY METRICS

PROTOTYPE CREATED WITHIN 2 WEEKS.

EXECUTION OF 10+ UNIQUE VALIDATIONS.

OVER 40 STEPS AUTOMATED.

SYSTEM CAPABLE OF PROCESSING 10M+ RECORDS.

AUTOMATED SOLUTION RUNS IN UNDER 3 MINUTES.

SIGNIFICANT REDUCTION IN TOTAL COST OF OWNERSHIP BY GIVING CONTROL TO BUSINESS USERS.

APPLICATION OF 20+ TRANSFORMATIONS.

80% REDUCTION IN MANUAL EFFORT.