

intelliTide

# REINVENTING THE DIGITAL WHEEL

● A CASE STUDY ON MDM FOR THE AUTOMOTIVE INDUSTRY

# SETTING THE WHEELS IN MOTION FOR DIGITAL TRANSFORMATION

AN INTRODUCTION

## About The Company

The Company (real name withheld on request) is one of North America's largest providers of automotive solutions. They own hundreds of distribution centers, about 700 retail centers and thousands of delivery trucks. The Company also works with multiple global manufacturers and has a network of over 300,000 B2B customers.



# THE DIGITAL TRANSFORMATION JOURNEY



The Company is on a disruptive journey centered around leveraging its vast amounts of data to improve efficiency, reduce costs and grow its reach into new markets.



The enterprise envisions to pass the benefits of its digital transformation initiative to its suppliers and customers.



With vast troves of data spread across multiple systems, they have created a single source of truth system for their Master Data using the Precisely EnterWorks solution.



They have also deployed a cloud data warehouse, Snowflake, that stores relevant operational data from various internal applications that provides fast and powerful analytics.

# A MASTER PLAN WITH PRECISION

## Master Data Management

To find a suitable data management solution for The Company, the Precisely EnterWorks platform seemed like the perfect fit. It was implemented across multiple domains including **Product, Customer and Vendor containing more than 200 million Master Data Fields**. The goal is to expand this further and bring more domains like Party, Asset and Location into the fold. They have also implemented near real-time integration with their ERP and Ecommerce platforms.

	PRODUCT	VENDOR	CUSTOMER
No. of items	2,90,000	16	2,40,000
Attribute count	450	20	300
No. of integrations	ERP, ECOM	ERP	ERP, ServiceNow
Item creates/ updates	1000s per month	1 Million assets per month	1000s per month

# GOING WITH THE MASTER FLOW

## THE MDM DATA FLOW

The Company implemented the co-existence implementation style where new products are introduced in the ERP and syndicated to MDM for the creation of a golden record and enrichment. Items in MDM after they pass a predefined data quality threshold are synchronized back with ERP (products, customers and vendors) and Ecommerce (products only).

The Company has integrated MDM with their ERP using API. Any incoming messages to EnterWorks MDM from ERP (mostly item creates or updates) are processed by a middleware Kafka micro-service that converts the incoming ERP messages into JSON, applies transformations to convert ERP business objects into MDM objects and calls the MDM API to pass the items to be updated or created.

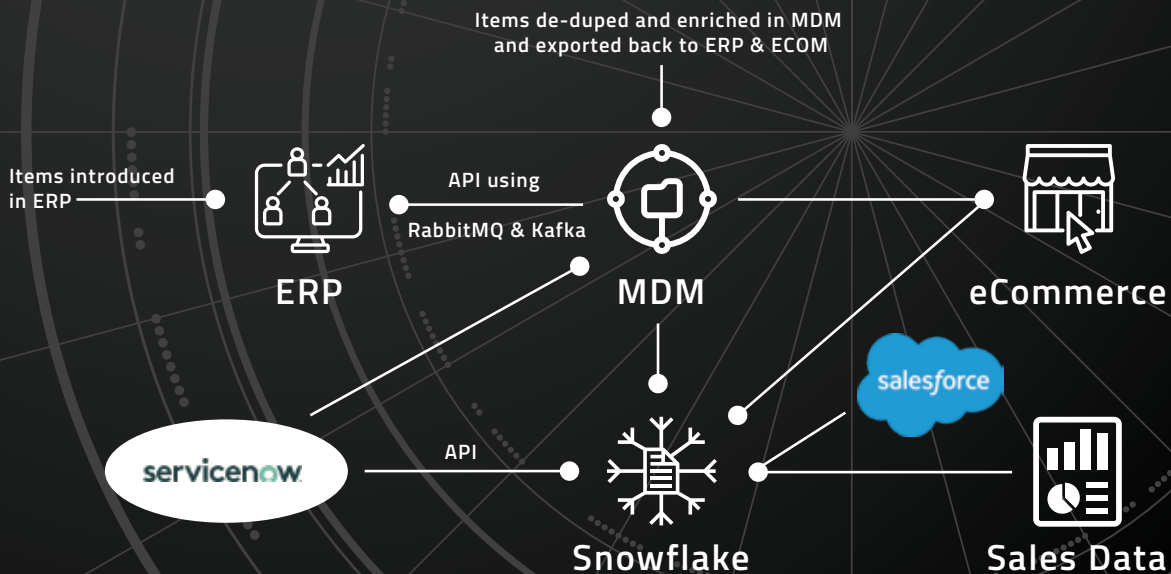
Outgoing messages from MDM are sent to three destinations –

Products are exported to ERP using the API. Any changes to a product record in MDM trigger a new message insertion into EnterWorks RabbitMQ. The aforementioned middleware Kafka microservice now performs the reverse operation – it transforms an MDM JSON message into a JSON message consumed by the ERP API.

Products are also syndicated to The Company's online marketplaces using scheduled CSV formatted files.

Products, customers and vendor records are exported to Snowflake using scheduled CSV formatted files.

A very similar flow for customer and vendor Master Records mimics the flow described for product data.



# • MULTI-DOMAIN IS KEY

*The subject of this study has a growing list of companies pursuing a comprehensive multi-domain MDM strategy as opposed to just one or two domains. The Company realized early on the interconnection of data entities in an enterprise. For example, a product will have one or more suppliers (if the product is manufactured or assembled in-house, companies will still need to source raw materials and parts) and one or more customers. So, there are Supplier, Product, and Customer relationships. Similarly, Assets, Locations, Accounts and other entities are all related to each other directly or indirectly. Enterprise data is, therefore, a graph of interconnected objects.*

## So how does a multi-domain help? Here are just a handful of benefits:

- » A very high data quality is maintained across all master data as opposed to only a subset of it.
- » The domains that are implemented in MDM will obviously benefit the operations related to that domain but overall company efficiency may not reach its full potential if other domains not in MDM ultimately contribute to inefficiencies.
- » Data insights using Analytics demand high quality data across the board. Just one subset of data in a high-quality state while the rest suffer from inadequate quality does not lead to high value insights.

**The Company, with its multi-domain MDM execution, is enjoying all these advantages and more.**

# ● THE RETURN ON INVESTMENT IN MDM

*Measuring direct ROI from an MDM investment is a challenging problem to solve. Precisely and its partners are collaborating with The Company to quantifiably measure ROI using quantitative analysis and other techniques (to be published in a future paper). In the meantime, we have uncovered some revealing statistics that have overall provided a very high ROI for The Company.*

Overall **data quality scores** for products **improved by over 60%** after the launch of PIM (the Product Domain of MDM)

**Average fill rates** also **improved by over 60%** with the top **selling brands inching closer to 70%**

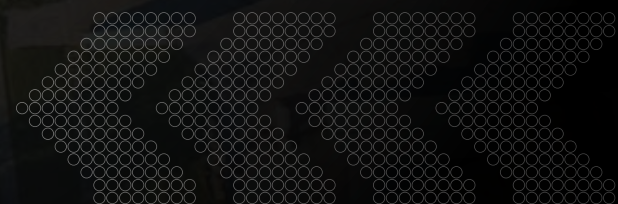
▶▶▶▶ **Pre-PIM error rate** of product attributes **improved from 100%** (every product had at least one attribute in error) **to near 0%** (post-PIM less than 0.1% of products had at least one attribute in error) even as the number of validations doubled

▶▶▶▶ **Product launch velocity** (introductions of new products/SKUs to the market) **improved from weeks to days** after the launch of PIM

▶▶▶▶ **Customer data quality scores** including reduction in duplicate customer records **improved more than ten-fold** greatly reducing time to clean up customer data

▶▶▶▶ Roll-out of Vendor Portal to the suppliers has provided the ability for them to manage their product content with very little support required from their own team. **Adoption of Vendor Portal stands at 100%.**

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# • THE GRAND VISION

The Company is in the business of providing comprehensive automotive solutions. Their vision is **“to be the most connected and insightful automotive solutions provider”** - solutions that will transport people from one place to another safely, quickly and efficiently.

The execution of this vision is well under way. The implementation of this vision has required them to adopt cutting-edge technologies and solutions – **AI and Analytics, Cloud Enablement, Data Management and Warehousing, B2B and B2C Ecommerce, Warehouse Management and other tools that must seamlessly integrate with each other.**

These systems produce and process very large volumes of data every day.

**The centerpieces of the digital transformation are the Precisely EnterWorks Master Data Management solution and Snowflake.** The EnterWorks platform creates a very high data quality warehouse for Product, Customer and Vendor master data. This master data is merged with sales, inventory and other forms of data in Snowflake. **This singular source of high quality enterprise data enables** The Company’s technologist and business SMEs to collaborate and apply Advanced Analytics, including Artificial Intelligence, to derive **insights that generate tremendous value for its customers and suppliers.**