WG03 – Product Catalog Partner Onboarding

V1.1- Sept 2021
V1.0- Oct 2020

Intellectual Property Rights (IPR) Policy

- The Policy applies to activities of AgGateway
- All members as a condition of membership agree to comply with the IPR Policy
- Does not apply to joint activities that involve one or more members – through normal business channels.

1. AgGateway may use and incorporate into the Standards, ideas, and information contributed, submitted or disclosed by the member in open meetings
2. AgGateway owns the Standards and all proprietary rights in the Standards. AgGateway may seek & obtain copyright, paten or other IP protection in such Standards
3. The Member retain ownership of any individual elements, ideas & information it contributed & is free to use those independently of the Standards.
4. There is a process that is detailed in the policy for any infringements
5. Members waive confidentiality in its contributions to the Standards.

Agenda

- Meeting Outcomes
- Executive Summary
- Manufacturer Architecture, Learnings, How to get started
- Channel Partner Architecture, Learnings, How to get started
- AgGateway WG03 Assets
- Next Steps
- Survey

Meeting Outcomes

- To provide information to help get your organization started with Product Catalog
- To gain an understanding of the solution
- To understand learnings from Syngenta and Winfield
- To gauge your ability to participate

Executive Summary

① Kick-Off April 2019 at Land O Lakes, MN.

Product Catalog Working Team (Bayer, GROWMARK, Land O'Lakes, SmartWyre, Syngenta, Rosen's Diversified, GS1-US. Interested - BASF, Southern States)

② Purpose:

Explored current desires, needs and expectations for **product catalog data,** and determine interest in an industry data standard that initially addresses **eCommerce**.

Define "with" vs. "for" the Ag industry.

Scope - Start small – US Crop Protection, subset of products.

③ Challenges

- No defined '**product**' schema standard in Ag for eCommerce.
- Lacking defined controlled vocabulary (Crops, Pests)
- Existing solution is manual **(labor intensive)**
- Outcome: Implement proof-of-concept for a product catalog within 60 days (Sept 3 to Oct 31, 2019)

Success!

④ Outcome Proof Of Concept

Deliver IT solution to make manufacturer product information available to Distributor eCommerce solution and inform AgGateway Product "Catalog" industry standard.

Syngenta   Land O' Lakes

Manufacturer   AgGateway Catalog Shema   API   Distributor eCommerce

OAGIS

Go-Live Oct 31st
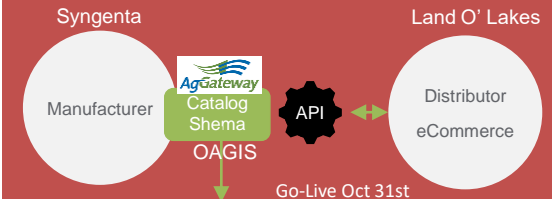
Data fields	
• Product type	• Pests
• Product name	• Active ingredients
• Product ID	• Restricted use
• Pack size	• Pesticide
• Product description	• Product label URL
• Product benefits	• Product logo URL
• Crops	• Safety data sheet URL

⑤ Expand for Canada++ requirements: Instructions (Mixing/ Application), Metric, Registration Pest Mgmt Regulatory Agency (PMRA) and EPA license info, Mode of Action classification mapping, French language(?)

AgGateway
Collaboration for eConnectivity

Business Outcome & Value

Business Outcome
- Consistent and timely availability of manufacturer product information in Channel Ecommerce solutions to help buyers make purchase decisions
- Enable future opportunities beyond Ecommerce; e.g., In-field Product Identification

Value
- Customers can more efficiently identify the right products to address their CP needs
- Code once, integrate many times
- Initial item load for on-boarding operational transactions (orders, ship notices…)
- Cost savings, improved processes
  - Producer: Fielding machine-readable data requires greater commitment to data quality which unlocks other sources of value
  - Consumer: Staff does not need to manage product data manually

High Level Architecture (Manufacturer)
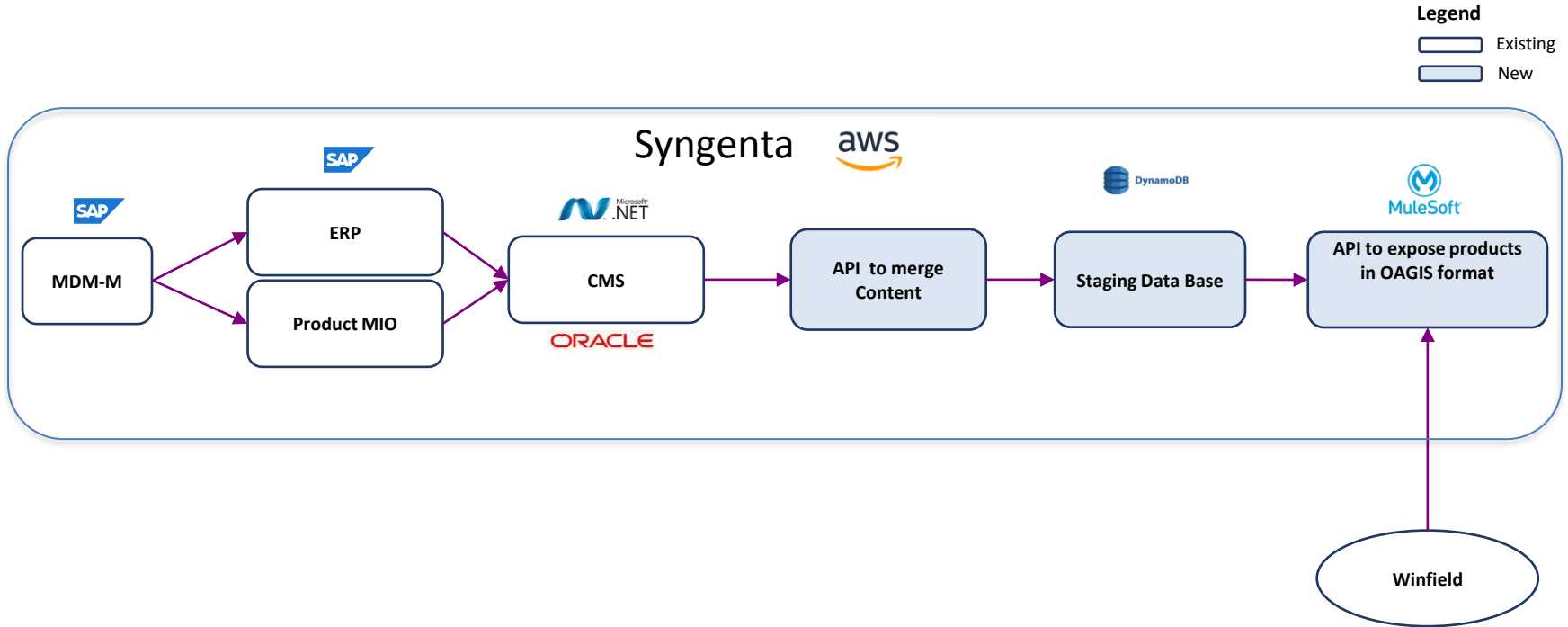
Learnings (Manufacturer)

Start

We are here
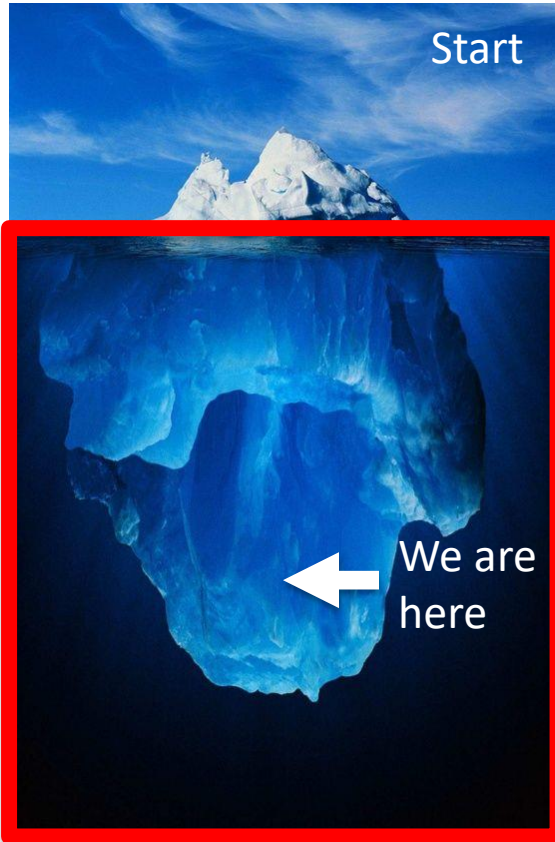
- Our work begins

- Roles

- Technology is the "easier" part

- Data Sources

- Data Consistency

- "Non-Invasive" Data Governance

- Visualization

How To Get Started (Manufacturer)

1- Explore value of Product Catalog with stakeholders and customers

2- Review your product data sources to assess what you can commit to (Data readiness, quality, level of complexity).

3- Consider your Architecture design (Data Sources, Staging Db, API, UI, etc.)

4- Agree on frictionless way of working **ahead of time** (Agile, 'non-invasive' data governance).

AgGateway
Collaboration for eConnectivity

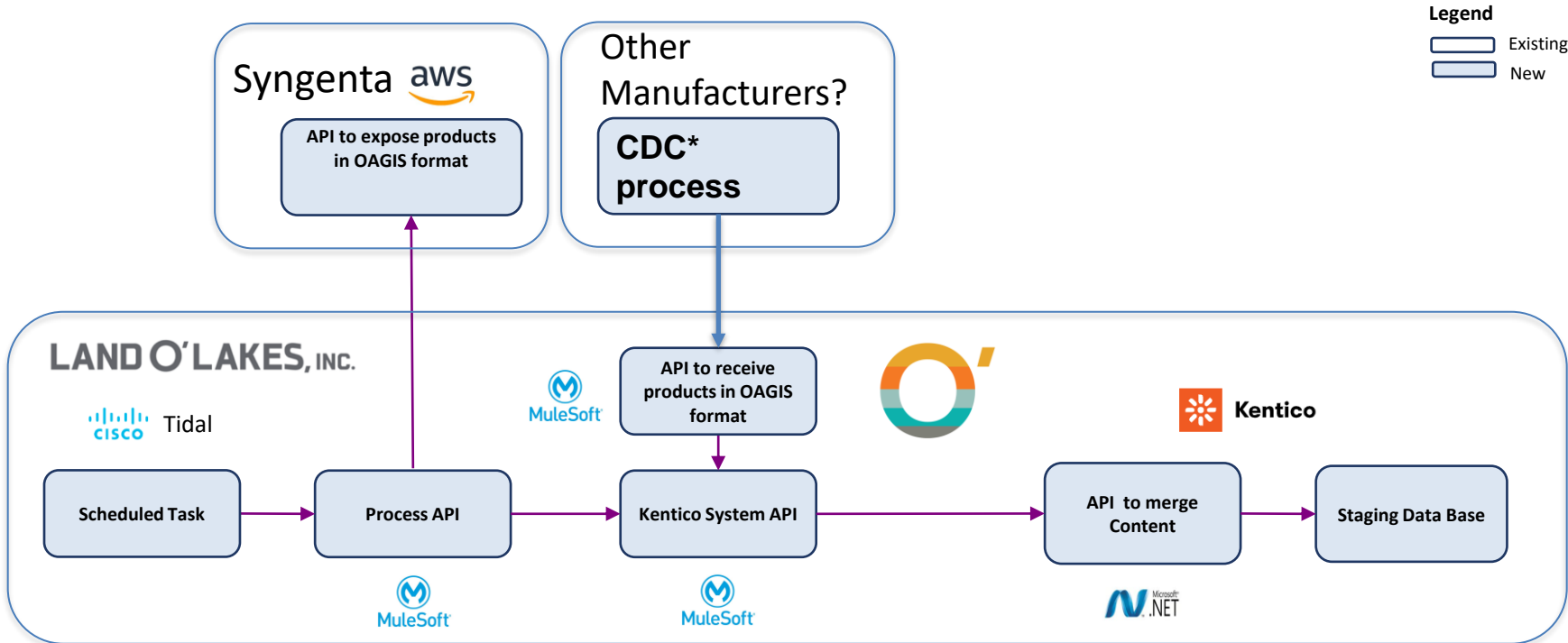# Learnings (Channel Partner)

Start

We are here

- Our work begins
- Technology is the easy part
- Process
  - Classification (human in the loop)
  - Production Selection
  - Approval and Release
- Data Consistency

Current State: WinField United API

- REST API allows manufacturers to send product changes to WFU
  - Preferred
  - If any field related to an item / product is changed, the entire product / catalog line is resent
  - Change Data Capture is not trivial if multiple data sources are used
- WFU can schedule integration(s) similar to Syngenta implementation with the following 'parameters' to reduce payload size:
  - item.typeCode ::= ['Herbicide' | 'Fungicide' | 'Insecticide']
  - lastModificationDateTime = $lastExecutionTimestamp

High Level Architecture (Channel Partner)

Legend
- Existing
- New

Syngenta aws
- API to expose products in OAGIS format

Other Manufacturers?
- **CDC* process**

LAND O'LAKES, INC.

CISCO Tidal

MuleSoft

- API to receive products in OAGIS format

Kentico

- Scheduled Task
- Process API
- Kentico System API
- API to merge Content
- Staging Data Base

MuleSoft

MuleSoft

Microsoft .NET

CDC= Change Data Capture; aka real-time synchronization

AgGateway
Collaboration for eConnectivity

WFU Long Term Architectural Vision

- Remap JDE -> PIMS integration to standard API*
- User Interface(s) to support *business process changes*****
- Rewrite integration from PIMS -> e-Commerce**

Key: * ~ effort, Blue is new workstream

How To Get Started (Channel Partner)

- Understand the data model; catalog of products with packaging options

- Leverage free assets

- Determine the extent middleware is used (if needed)
  - We built an 'application adapter' deployed *within* the PIMS system
  - Middleware manages connectivity, JSON pass-through, and exceptions

- Careful with large arrays; use JSON features in DB or 'flush and fill' pattern

- Review Business Processes and e-Commerce Requirements

WG03 Assets

- https://aggateway.atlassian.net/wiki/spaces/PCWG/pages/1114570762/WG03+Product+Catalog+Assets
- OAGIS Catalog JSON Schema v2.0
  - https://aggateway.atlassian.net/wiki/spaces/PCWG/pages/2199879868/Catalog+v2.0+Changes
  - Transport neutral, normative form
  - Profile is in the NIST/OAGi Score Tool
- OpenAPI Spec 3.0.2 GET
- Staging Tables DDL
- Oracle Data Modeler Project for Staging Tables
- Data mapping specification spreadsheet (Catalog JSON -> Tables)
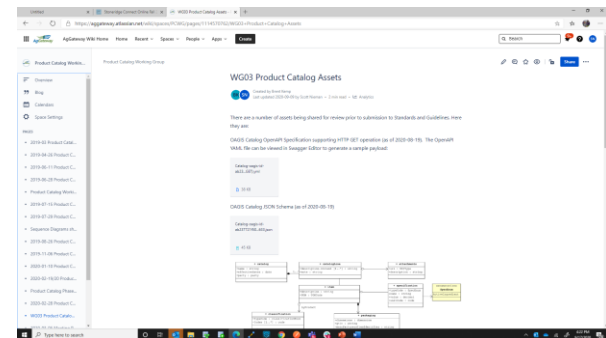
Free DDL script for Staging Tables

Language Code TODO

MoA

Registration TODO

Instructions
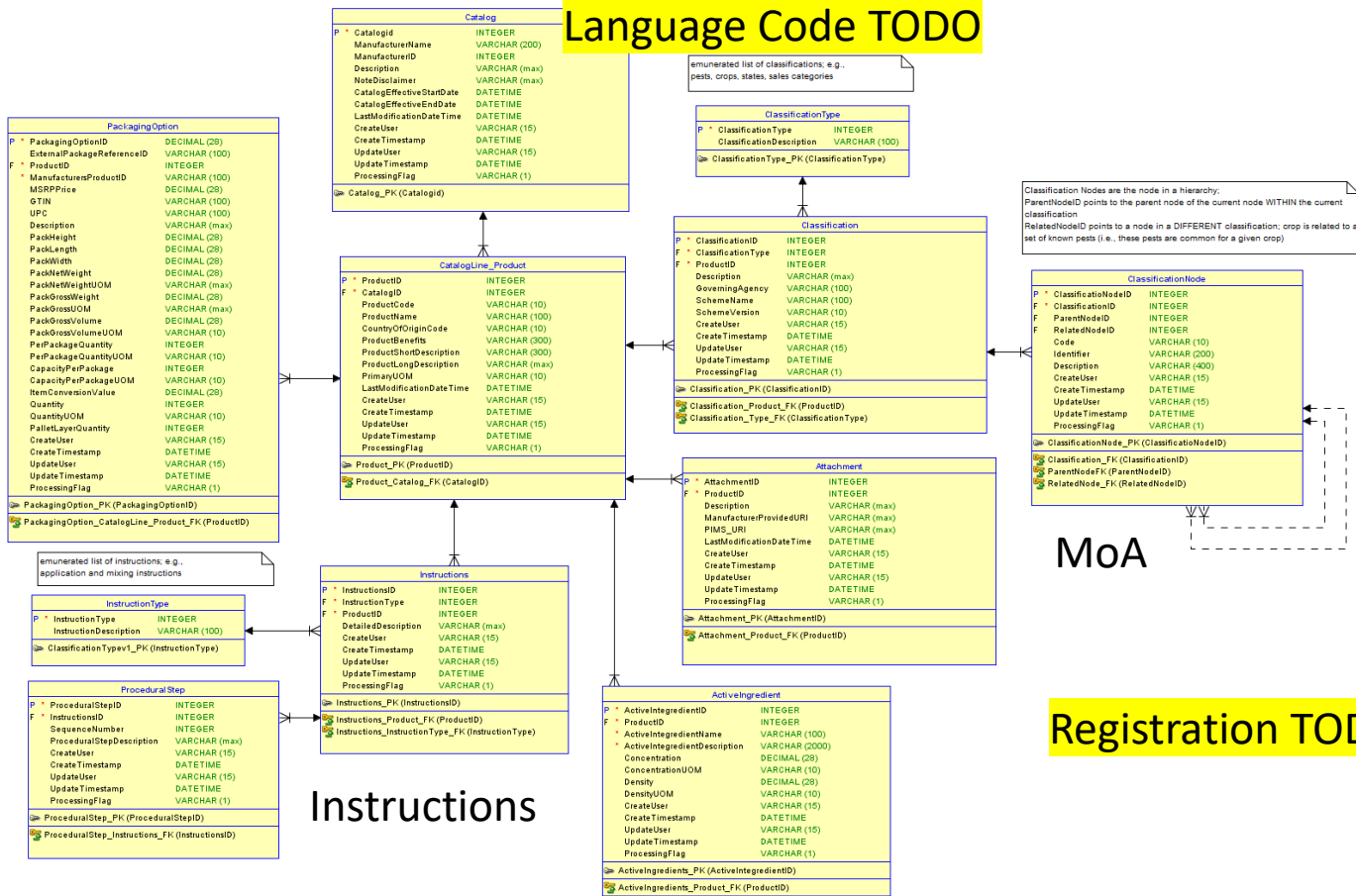
Github Issues logged in OAGIS repo

- AgGateway guiding principles:
  - Leverage existing standards where applicable, and
  - Work with Standards Development Organization (SDO) to improve the standard
- OAGIS is maintained by Open Applications Group Inc (OAGi)
- OAGi also maintains Chem E-Standards, known as AgGateway E-Standards (XML)
- Key enhancement requests for Release 10.7.2 (9/2021):
  - Registration Status component
  - Instructions component
  - Architectural feedback on Language Code is to using HTTP headers (REST)
  - Mode of Action will be mapped to classification.codes[typeCode=MoA].code

Parking Lot

- Work with WG00 for
  - Controlled vocabularies
  - Glossary Entries
- Implementation Challenges
  - Catalog versioning to handle products no longer listed
  - Superseded products
  - New Canada Requirements

Next Steps

- V2.1 for Canada requirements
- Seek S&G approval for v2.1 catalog standard
- Consultation with other implementation partners
- Share progress at AgGateway Annual Meeting
- Questions

Survey

- Have questions, feedback?

Backup Slides