

AGIIS Modernization Phase 2 Enhancements

Introduction and References

Introduction

This document assumes knowledge of basic AGIIS terms and processes. For more information on the AGIIS system, a glossary of terms, and current policies and procedures, see the [AGIIS documentation](#) on the AgGateway website.

TERMS - Quick reference for terms and resources used in the document

- **API:**
 - An application program interface (API) is code that allows two software programs to communicate with each other.
 - The API defines the correct way for a developer to write a program that requests services from an operating system (OS) or other application. APIs are implemented by function calls composed of verbs and nouns. The required syntax is described in the documentation of the application being called.
- **REST: REpresentational State Transfer** is an architectural style of development for distributed software. REST generally conforms to the following principles:
 - It should be stateless
 - It should access all the resources from the server using only URI
 - It does not have built-in encryption
 - It does not have session
 - It uses one and only one protocol, that is HTTP
 - For performing CRUD operations, it should use HTTP verbs such as get, post, put and delete
 - It should return the result only in the form of JSON or XML, atom, OData etc. (lightweight data)
 - REST based services follow *some* of the above principles but not all
 - RESTFUL services means the service follows *all* the above principles.
 - It is similar to the concept of:
 - Object-based languages supporting all the OOPs concepts, **examples:** C++, C#
 - Object oriented languages supporting *some* of the OOPs features, **examples:** JavaScript, VB
- **SOAP:** a messaging protocol specification for exchanging structured information in the implementation of web services in computer networks. Its purpose is to induce extensibility, neutrality and independence. It uses XML Information Set for its message format, and relies on application layer protocols, most often Hypertext Transfer Protocol (HTTP) or Simple Mail Transfer Protocol (SMTP), for message negotiation and transmission.

AGIIS INTERFACES

- Existing Automated Services and Interfaces detailed documentation is available from the AGIIS website, under the “Links” menu.

| PRODUCTS | E-BUSINESS | GLN BULK | GLN EXTRACT |
|--------------------------|---|-----------------------------------|---|
| → PRODUCT 3-LEVEL (CSV) | → SUBSET EXTRACT (TEXT) | → SUBMISSION (XML) | → UPDATE EXTRACT (CSV) |
| → GTIN 1-LEVEL (CSV) | → SUBSET EXTRACT (XML) | → SUBMISSION (TEXT) | → UPDATE EXTRACT (CSV) TOOLS |
| → SUBSET UPDATE (TEXT) | → UPDATE EXTRACT (996) | → RETURN (TEXT) | → UPDATE EXTRACT (XML) |
| → SUBSET UPDATE (XML) | → UPDATE EXTRACT (838) | → SUBMISSION CODES (TEXT) | → SUBSET EXTRACT (TEXT) |
| → PRODUCT EXTRACT (XML) | → UPDATE EXTRACT (CSV) | → TEXT/XML XREF | → SUBSET EXTRACT (XML) |
| → PRODUCT IMPORT (XML) | → UPDATE EXTRACT (CSV) TOOLS | → RETURN CODES | → GLN REUSE HISTORY FILE FORMAT (XLSX) |
| → UOM CODES | → UPDATE EXTRACT (XML) | → ERROR CODES | |
| → CROP CODE XREF | | | |
| → ERROR CODES | | | |
| LICENSES | TECH TOOLS | AGIIS | AGGATEWAY |
| → AGREEMENT IMPORT (XML) | → XML SCHEMA- DOCUMENTATION | → AGIIS VALUE TO AG INDUSTRY | → AGGATEWAY HOME PAGE |
| → LICENSE IMPORT (XML) | → XML SCHEMA-DOWNLOAD | → AGIIS OVERVIEW | → UOM CODES |
| → LICENSE EXTRACT (XML) | → PRE-2011 WEB SERVICES | → AGIIS ENHANCEMENTS | → CURRENT EDI X12 STANDARDS |
| → ERROR CODES | → CURRENT WEB SERVICES | → AGIIS POLICY DOCUMENT | → STANDARDS |
| | → USPS ADDRESS LOOKUP | → AGIIS OPERATIONAL PROCEDURES | → GUIDELINES |
| | → PRODUCT NOTIFICATION VIA EBMS | → AGIIS SUBSCRIBER LIST | → ECONNECTIVITY TOOLS |
| | → TRADING PARTNER ADD TO SUBSET NOTIFICATION VIA EBMS | → REQUIRED ENTITY DATA | → AGIIS SUBSCRIPTION FEES |
| | | → PRODUCT SECURITY INFO | → SUBSCRIBING TO AGIIS |

Enhancement Suggestion List

Delivery Method Enhancements

- Creation of RESTful APIs
 - Convert existing SOAP-based web services to RESTful services.
 - Offer JSON formation for both inbound and outbound data. *Current file interfaces for web services are built as XML files. This enhancement allows for an alternate content format for developers to create or consume. The JSON format is generally more compact, leading to less bandwidth consumption, and therefore more widely used by mobile developers. JSON formats would position AGIIS for better adoption by mobile applications and other APIs.*
Submitted By: A Company from the Crop Protection and Seed Segment
 - Implementation of service-wide API and retail-focused connectivity
Submitted By: Integrated Retailer in Crop Protection and Seed Segment
- Reference Data API Directory Service *Implement a reference data directory service using the AgGateway Reference Data API specification. The directory can include some or all of the following reference data items. Directory service access could be restricted based on partner's customer lists, authentication/authorization controls, etc.*

- Company's Products
- Carrier Codes
- Regulatory Information (aligned with current providers)
- Units of Measure
- USDA Data
 - Crop Codes
- Any lists needed in AgGateway messages
- Seed Price/Zone Information
- License Information (AgCelerate)

Submitted By: Multiple Companies in Crop Protection, Seed and Precision Ag Segments
- Excel Spreadsheet Return Formats. *Many organizations, especially smaller shops, are equipped with Excel import tools into their back office applications. For all AGIIS extract or return files (specifically product extracts), an Excel offering would be developed to speed these organizations' adoption of AGIIS and improve their ability to integrate with eAgriculture messages.*

Submitted By: Multiple Companies specifically Seed Segment

New AGIIS Features

- Relationship Management. Develop a new feature within AGIIS for Subscribers to be able to identify and manage customer hierarchies. This functionality could initially focus on a supply chain view (manufacturer/distributor/retailer) but could be extended to a grower/farm business level.
 - Supply chain entity relationships. *Ability for partners with hierarchies or multiple locations tied to a parent entity to configure and share such relationships with other partners. Example relationships would include off-site storage and retail locations; manufacturer-specific hierarchies with distributors, etc.*
 - Grower relationships. *Ability for partners with end user/customer/purchaser relationships to configure and share such relationships with other partners. Example relationships would include individual persons to farm businesses; landlord to tenant; purchaser to licensed entity; etc.*

Submitted By: Multiple Companies for Crop Protection and Seed Segments
- Brand-level identification for Products. *Ability for product owners to specify and share "brand" level identifiers with partners, or for AGIIS to generate and associate brand-level identification as needed by non-supply chain processes.*

Submitted By: Precision Ag/Field Operations Segment
- Field identification *Unique identification and cross-reference support for multiple definitions and subsets of fields, to include elements and attributes for geospatial boundaries, point-in-space, or other needed associated data.*

Submitted By: USDA and Precision Ag/Field Operations Segment
- Unique Identification (GTIN) Service for Custom Seed Treatments. *Ability for AGIIS to generate GTINs for custom seed treatments at a post-manufacturer level. Would likely require the Reference Data API and Reference Data Directory as a pre-requisite.*

Submitted By: Ag Retail and Precision Ag/Field Operations Segment
- Dynamic Barcode Generation. *Ability for AGIIS to generate and transmit barcodes for AGIIS-assigned or AGIIS-enabled identifiers. Would likely require the Reference Data API and Reference Data Directory as a pre-requisite.*

Submitted By: Precision Ag/Field Operations Segment

- Phase Out EBID Support (AGIIS and Ag eStandards). *Industry wide agreement on phasing out the EBID as a primary identifier type, along with transition to versions of Ag eStandards that no longer support this identifier.*
Submitted By: A company in Crop Protection Segment

Web Interface Enhancements

- Product-Related Enhancements
 - Product Code search and inactivation. *Ability for AGIIS users to search on the product owner's Product Code key field, and for owners to be able to inactivate a product through this search. Enabling this function would streamline the ability of product owners to load and manage their products in AGIIS, thereby lowering the barrier to data entry.*
Submitted By: A Company in Seed Segment
 - Inactivate Seed Product by Product Code and Variety/Hybrid. *Ability for AGIIS product owners to be able to inactivate a specific seed product using the Product Code key identifier or in groups by variety/hybrid. Back end seed manufacturer applications do not always provide the public-facing GTIN or Reporting ID as a searchable field. Enabling this function would streamline the ability of product owners to load and manage their products in AGIIS, thereby lowering the barrier to data entry.*
Submitted By: a company in Seed Segment
 - Integrate Address Tools into the website.
Submitted By: A Company in Seed Segment
- Dashboard
 - Quick Reference of information.
Submitted By: Allied Provider
- Entity Search Enhancements. *Ability for users to search on additional parameters, different views, etc.*
Submitted By: A Company in Crop Protection and Seed Segment
- User Search History. *Ability for a user to save searches for use in subsequent AGIIS sessions. Search parameters would persist across multiple sessions and could be viewed or re-initiated as desired by the individual user.*
Submitted By: A Company in Crop Protection and Seed Segment