AgGateway's ADAPT Framework

A description of the Minimum Viable Product

The promise of seamless interoperability among precision ag systems – regardless of the system manufacturer – has entered an exciting new stage with AgGateway's ADAPT framework. ADAPT (Agricultural Data Application Programming Toolkit) will eliminate this barrier to the broad use of precision agriculture data, by easily enabling interoperability between different software and hardware applications.

ADAPT is an open-source project, allowing stakeholders worldwide to use the software and to contribute to its continued development. The toolkit has been developed over several years by a large, collaborative group of AgGateway members from a variety of manufacturer and farm management information system (FMIS) software companies, who all recognize that the grower and other agricultural stakeholders have a critical need to use data from multiple sources in field operations decision-making. **ADAPT's open-source structure encourages participation by everyone – AgGateway members and non-members alike.**

Scope and Content of the Minimum Viable Product (MVP)

The interoperability issue in agricultural field operations data incorporates a large range of data elements. As a result, the ADAPT framework incorporates many aspects of field operations data translation. For the MVP, we've limited the technical scope to be the smallest possible that at the same time creates the largest possible degree of interest by a wide range of FMIS companies to become ADAPT-MVP-compatible. We also want to make it as easy as possible for manufacturers to create MVP-compatible plug-ins. The MVP is a good representation of the current tested status of ADAPT.

Application Notes for current MVP scope:

- **Getting started with ADAPT** – Keys to getting started
- **Record linkage** – Recommendations on how to handle IDs that come into the FMIS that didn't originate from the FMIS
- **Grower, Farm, Field (GFF) data** – Foundational data
- **Product set-up data to MICS and FMIS** – Relevant data going to MICS to simplify an operator's process of in-field documentation
- **Field boundary data**
- **Simple totals generated by MICS**
- **Seeding spatial data, as-planted generated by MICS**
- **Yield spatial data generated by MICS**

*This Application Note summarizes the purpose and current scope of the **minimum viable product (MVP)** for AgGateway's ADAPT framework.*

More detailed information can be found at www.AdaptFramework.org or www.AgGateway.org.

Support for ADAPT

In addition to the 100 or so companies involved with AgGateway's Precision Ag Council, ADAPT has been endorsed by the **Agricultural Retailers Association (ARA)** and 12 major grower organizations including the **American Farm Bureau Federation, National Corn Growers Association, American Soybean Association, National Association of Wheat Growers and the National Cotton Council.**

We have seen good response by original equipment manufacturers (OEMs) of Mobile Implement Control Systems (MICS) who have committed to create ADAPT-compatible plug-ins for their various data formats. AgGateway anticipates that these MVP Application Notes will make it easier for manufacturers to begin planning and creating plug-ins.

AgGateway is a non-profit consortium of businesses serving the agriculture industry, with the mission to promote, enable and expand eBusiness in agriculture.

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The AgGateway ADAPT team is creating a series of Application Notes to describe the MVP. Our goal is to provide focused documentation on how to implement different aspects of the MVP, and why that adoption is useful. Each application note provides use cases and includes the "what" and the "how" of implementing ADAPT. The team has already posted three Application Notes (accessible through www.AdaptFramework.com and www.AgGateway.org), covering Field Boundary Data, Identification and Record Linkage, and Grower-Farm-Field.

We encourage companies to use the Application Notes in the MVP series that describe the existing capabilities of ADAPT for a target audience of managers (i.e., a technical manager) and implementers (i.e., a developer). These notes should help as FMIS companies choose where to start with implementation, and to clarify how to integrate ADAPT.

Some companies may want to broaden the MVP scope to include additional aspects of the ADAPT framework. AgGateway hopes that the MVP process will empower these companies to engage as part of the larger ADAPT community to lead in the documentation of the relevant aspects of the framework.

Your Next Steps

For customers that want the business system (FMIS) of your choice to be able to easily read from and write to different field computer systems, ask your software providers if: 1) those systems are ADAPT-MVP-compatible, and 2) whether your provider is actively engaged in the ADAPT open source software community.

For business systems (FMIS), Go to www.AdaptFramework.org to review resources related to the ADAPT MVP, and to find resources for implementing ADAPT. Look at your integration projects and ask integration partners to expose ADAPT-compatible interfaces (focused on the relevant data elements). Also, expose your own ADAPT-compatible interfaces for systems that wish to integrate with you! Help the ADAPT community document best practices.

For manufacturers of field computer systems (MICS), consider creating an ADAPT-compatible plug-in for your proprietary data format - visit www.AdaptFramework.org to get assistance.

For ISO-compatible systems (FMIS or MICS), consult with www.AdaptFramework.org for the latest information. Several companies are focused on creating an ISO plug-in for ADAPT that is available under the same open source software licensing terms as the ADAPT framework, and complies with the ISO 11783 part 10 conformance tests. The current status meets the TC-BAS level of conformance testing.