Agronomic Data Types

Nov 2018

JOHN DEERE

NOTHING RUNS LIKE A DEERE

Agronomic Data Types Objectives

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Understand agronomic data terminology

Learn what each solution can do: ISOXML, EIC, ADAPT, and MyJohnDeere API’s

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Understand how to decide which solution to use

Wrap up & Feedback

Definitions

What is a datacard?

Setup: Data that can be sent to a display

Client / Farm / Field

Boundaries, Guidance Lines

Products, Operators

Machines and Implements

Task and Job Information

Prescriptions

Documentation: Data recorded by a display

Field Operations

Setup data used for each field operation

What is a datacard?

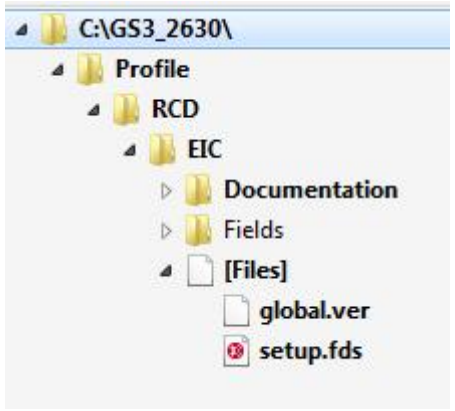
Data … the way a display wants to see it

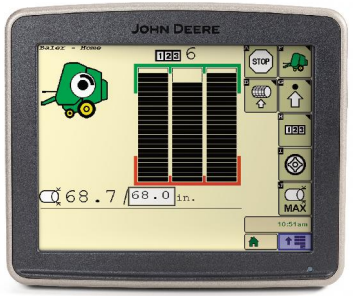
Each display model has its own format

Defined folder structure

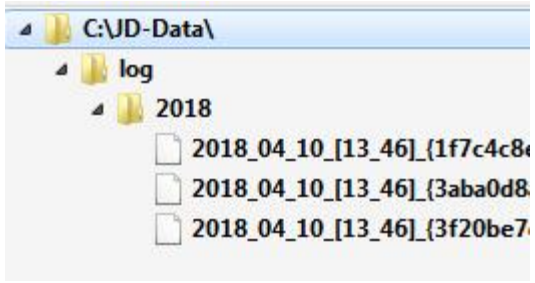
Defined file formats

MyJohnDeere calls a zipped datacard a “file”

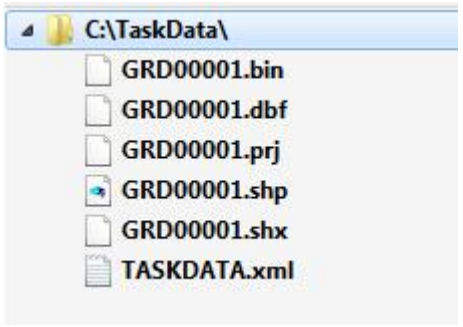




GS3 2630



GS4 4600



	Name	Type	Size
	JD-Data.zip	Doc	602.4 KB
	GS3_2630.zip	Doc	743.9 KB

Datacard Formats & Delivery Methods

Data standard

- Defined format: Schemas and file specifications
- ISOXML – 11783-10
- ADAPT data model

SDK (Software Development Kit)

- Software library that abstracts away details of a data standard
- EIC SDK; ADAPT plugins

Online API’s

- REST API’s that exchange data online
- REST objects are more granular than datacards

What can each solution do?

ISOXML

ISOXML

International standard with well-understood data model

Limited scope

- PAIL for irrigation data
- No support for soil data
- “Free text” entries make data quality difficult

It’s a data format - you still need a delivery method.

Supported by John Deere Gen4 Displays since the 18-2 release

- Only recommended for customers with Non-Deere machines who are not using John Deere Operations Center

Will be supported in Operations Center in the 2nd half of 2019

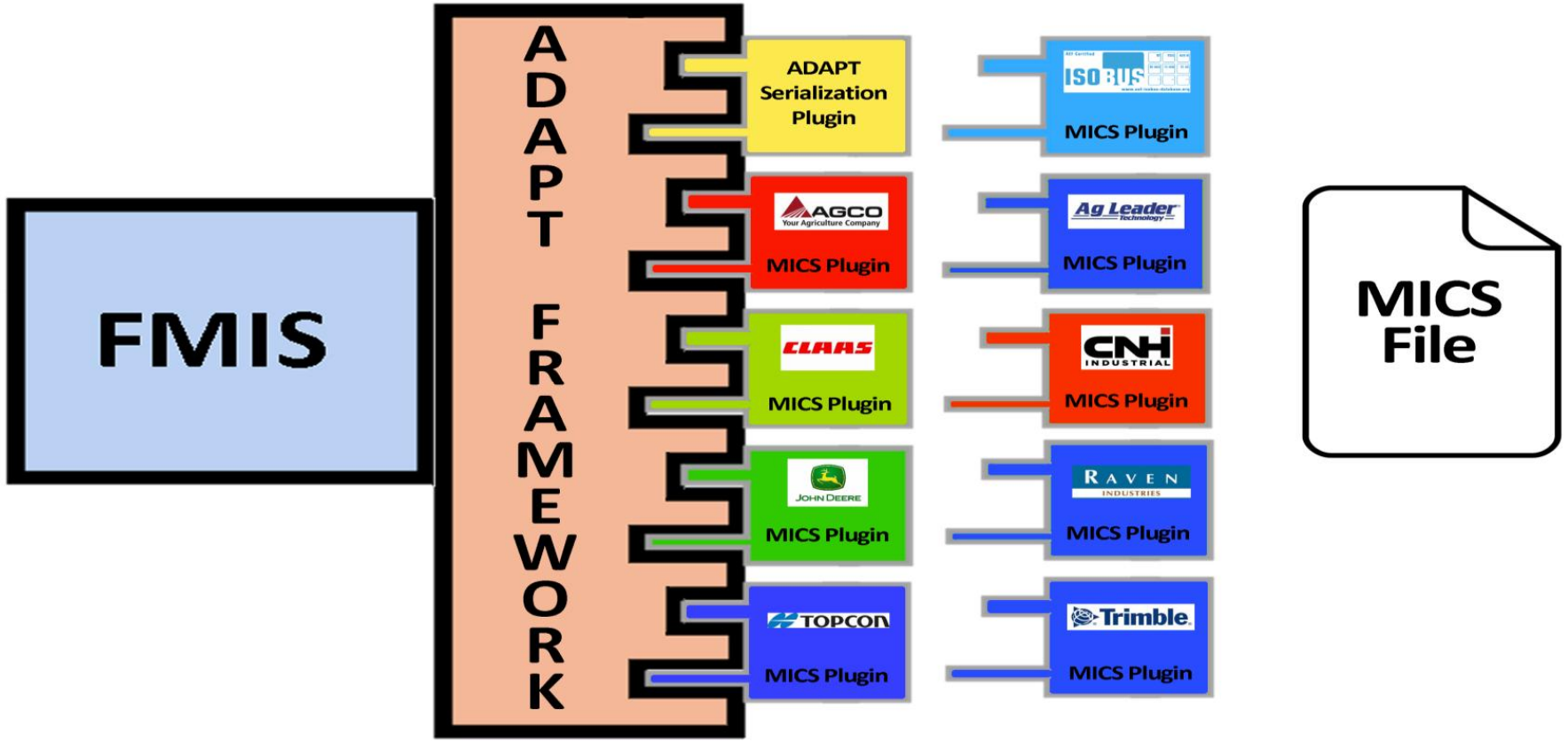
EIC

…is deprecated

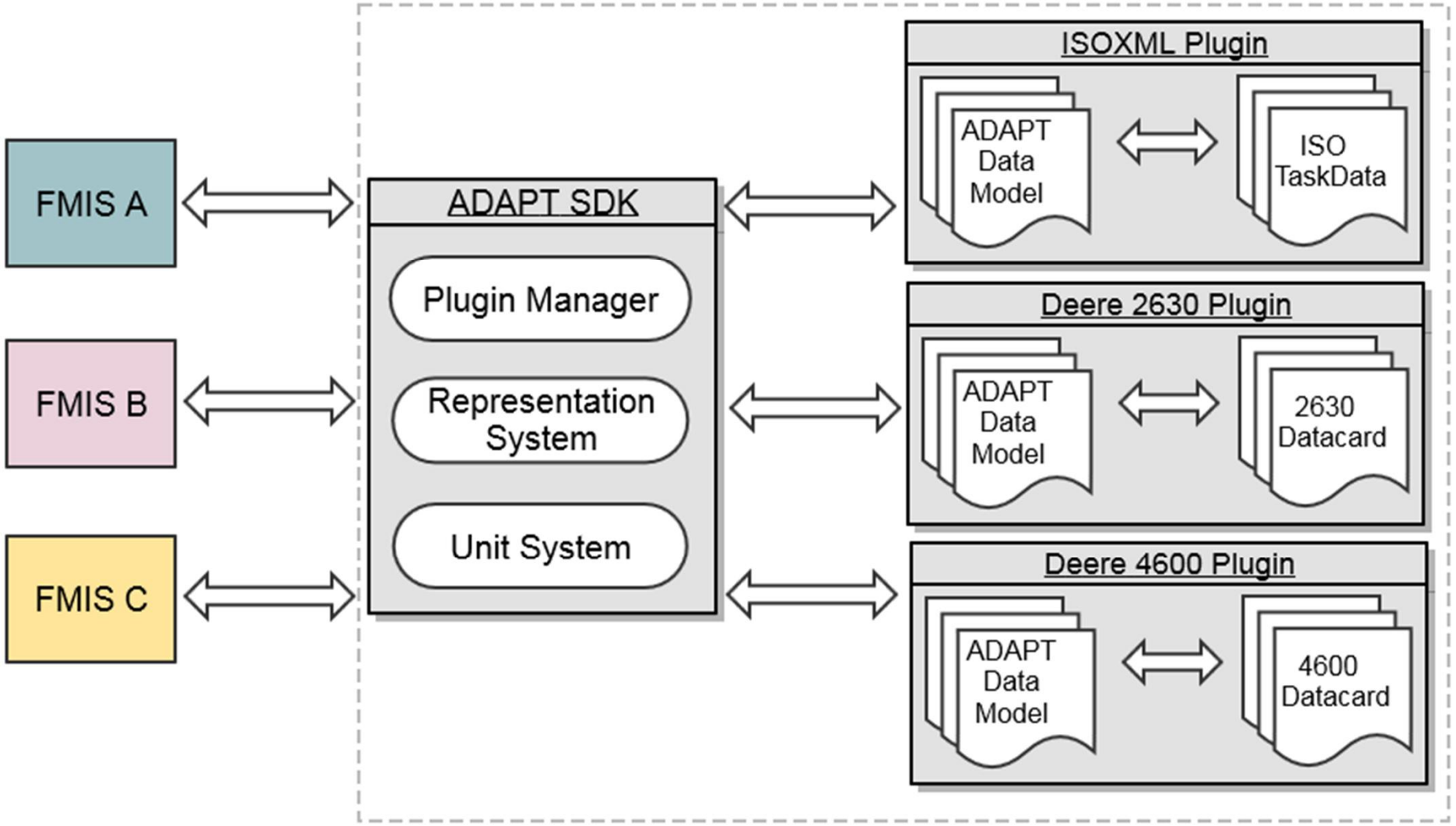
ADAPT

https://adaptframework.org/
https://github.com/adapt/

ADAPT


FMIS
ADAPT FRAMEWORK
ADAPT Serialization Plugin
AGCO Your Agriculture Company
MICS Plugin
CLAAS
MICS Plugin
JOHN DEERE
MICS Plugin
TOPCON
MICS Plugin
ISOBUS
MICS Plugin
Ag Leader Technology
MICS Plugin
CNH INDUSTRIAL
MICS Plugin
RAVEN INDUSTRIES
MICS Plugin
Trimble
MICS Plugin
MICS File

ADAPT


FMIS A
FMIS B
FMIS C
ADAPT SDK
Plugin Manager
Representation System
Unit System
ISOXML Plugin
ADAPT Data Model
ISO TaskData
Deere 2630 Plugin
ADAPT Data Model
2630 Datacard
Deere 4600 Plugin
ADAPT Data Model
4600 Datacard

ADAPT

Feedback so far: ADAPT is easier than EIC

You can run both in parallel if you need GS1 support

Documentation support by display model:

	GS1 Brownbox	GS2 2600	GS2 1800	GS3 2630	GS3 Command Center	GS4 Command Center	GS4 4600
EIC	✓	✓	✓	✓	✓	✗	✗
ADAPT	✗	✓	✓	✓	✓	✓	✓

ADAPT

Requires .NET, .NET Core, or Mono runtime

Presents data as it sits on the datacard

- You can apply custom algorithms to the raw data
- Custom algorithms may not match John Deere Operations Center

Similar functionality to a “new EIC”

- …plus multi-OEM support

MyJohnDeere API’s

https://developer.deere.com/

MyJohnDeere API's

Use Files API to download datacards, use ADAPT to process them

This gives you everything, but it's expensive

Or - Processed data: Take what you need

FieldOperations

Maps, totals, and metadata

Setup data, Machine Monitoring, etc.

See what's available:

https://developer.deere.com/

MyJohnDeere API's

Language and platform agnostic

Easier update process

- No need to ship new binaries if the 4600 extends its data format

Data consistency: Stay in sync

Get all the data from one place

- Field Operations can be spread across multiple files
- Gen4 DataSync results in more files than ever
- Users can share contributed data layers

~35.000

Currently-Connected

R2 Machines

Which Should You Use?

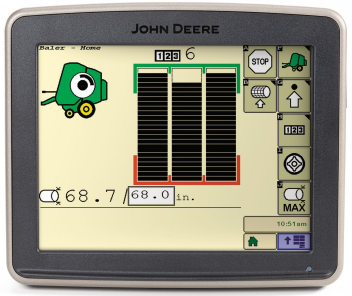
It Depends on Your Business Needs

Is your application .NET based?

Do you apply custom algorithms to raw sensor data?

How connected are your customers' fleets?

Will the online API's provide the data you need?



~200.000

Deere Displays

Worldwide

Feedback

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Developer.Deere.com


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