

FBS 11.3 Release

- New FBS Upgrade program – migrates Crop Audit setup data to Jet 4.0 *.mdb files
 - Removes fixed limits on number of setup items
 - Increases accuracy to 12 places after the decimal point for .NET code (VB6 is still limited to 4)
- Monthly updates containing new .Net Crop Audit programs with features beyond planned SQL Server support
 - Reporting Tool and faster reports – client customization of reports
 - Support for FBS modules using data from and storing data in other ERP systems
 - Replaceable User Interface component to support migration to Web or Mobile
- FBS Update program – stand-alone version, will update after install

FBS Software Future

- Migration from Visual Basic 6.0 to .NET
 - Essential to extend life of FBS software
 - Microsoft ended support for Visual Basic 6.0 development tools 10 years ago
 - .NET has been Microsoft's development direction for the past 15 years
 - Address some long standing FBS issues
 - Reporting performance and flexibility
 - SQL Server support
 - Untangling Business Logic (managerial/cost accounting) from the User Interface Logic so the Business Logic can be reused in other contexts
- SQL Server Support
 - Jet 4.0 and SQL Server both included in current development, only Jet 4.0 tested.
 - SQL Server available when Visual Basic 6.0 code has been replaced

FBS Software Future (Continued)

- Aligned with Microsoft's .NET Plan
 - Windows Forms on the Desktop
 - Current target for conversion from Visual Basic 6.0
 - ASP.NET in the Cloud
 - Shared Business Logic (code in *.dll files)
 - Focus on integrating FBS with other applications and mobile devices
 - Could deliver desktop replacement
 - Xamarin Forms for Android, IOS (Apple), UWP (Windows Store) Apps
 - Shared Business Logic (code in *.dll files)
 - Focus on capturing data from Mobile devices

FBS Upgrade

- Stand-alone FBS start menu item
- Upgrades data from the 8.16, 10.5, 11.1, or 11.2 versions to the 11.3 version
- When FBS detects incompatible data, FBS Upgrade must be used to upgrade the data to 11.3
- Upgrades can be done for individual companies
- Can be run multiple times over the same data with no ill effects
- Compresses the Jet 4.0 files for best performance

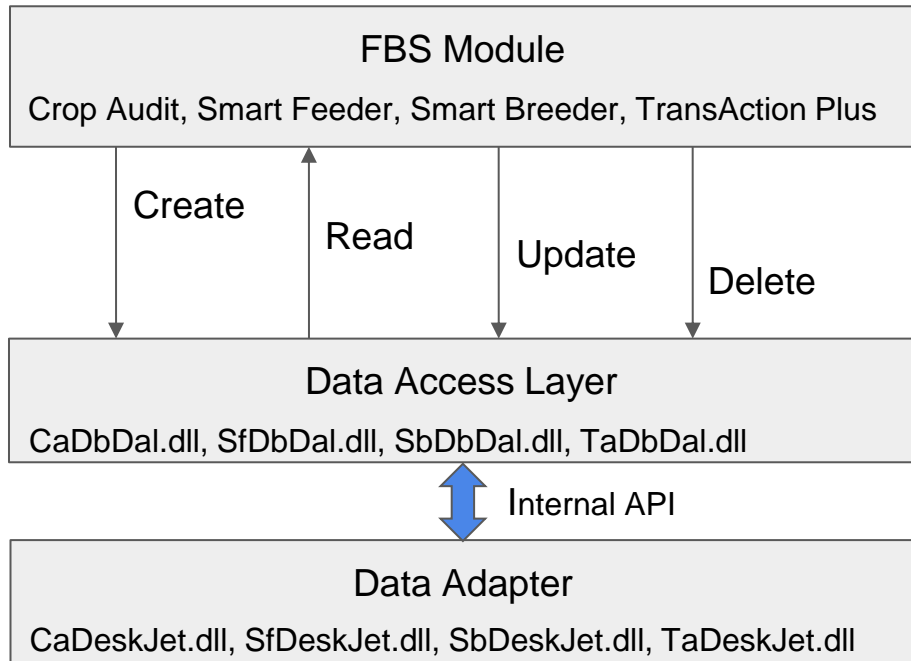
Reporting Tool

- ComponentOne FlexReport
 - Imports existing Crystal or Access reports
 - Designer allows FBS customers to modify standard reports
 - For more complex customer developed reports scenarios, supports viewing of reports from Microsoft SQL Server Reporting Services
 - <http://help.grapecity.com/componentone/NetHelp/FlexReport/webframe.html#aboutreportdesigner.html>
- No Additional Cost
- First use will be in new Crop Audit setup module in December 2018

Faster Reports

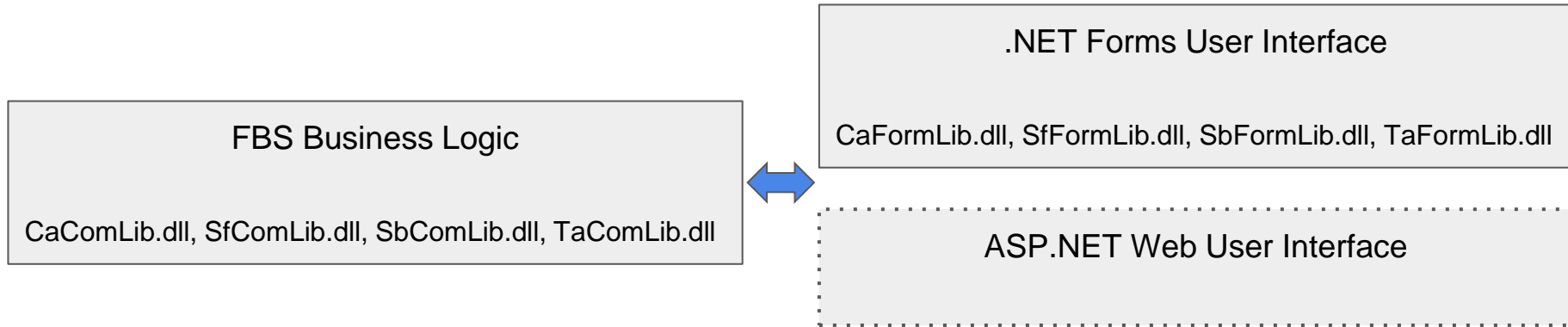
- Current FBS Reports were designed for limited memory (64 MB to 256 MB)
 - Repeated scanning of data files, one record at a time (much slower than memory access)
 - If there are large amounts of drill down data, it is saved to a disk file
 - As a result, reports that use large amounts of data are slow but only use a fixed amount of memory
- New .NET Crop Audit Reports are designed for unlimited memory (4GB +)
 - Data files are scanned only once and all records are kept in memory
 - All drill down data is also kept in memory
 - As a result reports are faster, but if the time period is too large then additional memory might need to be added to the PC.
- Both old and new versions of the reports will be available for a limited time

Today's Programmer Jargon: CRUD



- FBS modules use a CRUD (create, read, update, delete) data access layer to support different databases.
- An database specific data adapter connects FBS modules to the data.
- FBS 11.3 release provides data adapters for the Jet 4.0 *.mdb files currently used by the FBS desktop software (.NET code only).

More Programmer Jargon: MVVM



- Model-View-ViewModel (MVVM) is a software design method that focuses on separating a program's data (Model), user-interface (View), and business logic (ViewModel) into components that can be individually tested and replaced.
- As the VB6 code is migrated to .Net it is split into MVVM components; which aids testing and supports future migration of FBS Business Logic to the Cloud.
- A web-based user interface, which reuses the Business Logic component, is a future development option.

Strategy: Continuous Delivery of .NET to Customers

- We have developed solutions for integrating the existing VB6 code with new .NET code
 - Conversions from binary files to SQL database tables in Jet 4.0 (*.mdb files) will take place in every release, starting with 11.3
 - When migration is completed, a utility will be provided to move data from Jet 4.0 tables into SQL Server tables
- Release 11.3 will start rolling out changes to Crop Audit

Crop Audit Schedule (Setup)

Now to May '19

Oct – VB6 “Bridge” to .NET

Dec – Chemicals / Types / Active Ingredients

Jan– Fertilizers / Nutrients

Jan– Seeds / Traits

Feb – Fuels

Feb – Application Methods

Mar – Storage

Mar – Fields

- Drop boundary files?

Apr – Field Operations

Apr – Center Field Assignments

- Drop and use projects?

May – Projects

Shrink Tables

- Implement with Crop Input

Crop Cost Analysis

- Implement with Crop Reports

Crop Audit Schedule (Reports)

Jun '18 to May '20 (approx. one per month)

Crop History Report

Investment in Growing Crops

Field History Report

Print Work Orders

Cost Analysis Report

Report Generator

Crop Inputs Inventory

Landlord Report

Matrix Inventory Report

Project Report

Chemical Applications

Report By Task

Field Summary Report

Crop Audit Schedule (Input & Other)

Jun '20 to Mar '21

Aug – Lower Of Cost or Market Value

Oct – Mach 2.0

Jan – Inventory Valuation

Mar – Crop Audit Input

FBS Update

- Stand-alone FBS start menu item
- Automatically runs after FBS installation is complete
- Can install new software as well as patches