COVER PAGE for Answers by Vendors

Attached please find the answers provided by <mark>Protech Solutions</mark>, who was invited by the Systems Workgroup of the National Council of Child Support Directors (NCCSD) to present educational webinars on two of the newest approaches to modernizing state child support systems.   These two topics are "replatforming/refactoring" and "low code/COTS".   Note that some vendors are responding to both topics, and some are responding to only one.

<mark>IMPORTANT: Even though these are educational sessions, the vendors may be providing some proprietary information in their answers.   *Therefore, by opening these documents you are agreeing to treat the information as confidential.*</mark>

NCCSD Systems Workgroup Vendor Forums – Q&A related to "Low Code/COTS"

Vendor Name: __Protech Solutions, Inc.__

Please enter your responses into this document, but feel free to send any other attachments as well.

<u>Questions:</u>

1. Since there is not yet a consistent term or definition for this approach, please give your company's description, including your terminology and definitions. How is this approach different from a "custom" build of a child support system? If you choose to do a quick demo or screen shots that would be welcome.

For child support, a Low Code/COTS deployment utilizes a software system that includes the core functionality required for federal certification in addition to the most common features learned from multiple system implementations such as Business Intelligence, Imaging, Notice Generation, and Collaboration with complementary systems.

This option utilizes a certified software solution that is minimally configurable to offer nominal installation and testing time while providing proven results. Low Code/COTS leverages the industry best practice understanding that it is cheaper to modify business processes to support a verified solution than to customize code.

The approach displays common sense and pragmatism. Committing to the implementation of the system "as-is" to the fullest extent possible is fundamental to the success of the project. This approach:

1) **Facilitates very detailed planning early on through the use of as-is and to be requirements.**
2) **Eliminates several risk-elements such as changes to technology, evolving UI requirements, Data model customizations/changes, and business process re-invention.**
3) **Promotes re-use of project and architecture plans, development processes, testing, data conversion, and migration.**

Low Code/COTS represents a base set of functionality that can be augmented after the client has experience and knowledge of the product and has identified specific enhancements that will increase its business value.

Depending on the state of the existing legacy system, utilizing a Low Code/COTS deployment may result in increased usability, functionality, reliability, and consistency even without customization.

In a simple representation, the major options are:

1) **Low Code/COTS** – Proven product, minimal design or development, lower project cost, lower risk, limited state engagement required, limited testing required.
2) **Customized COTS/Transfer System** – Based on an existing system, modified to meet identified requirements, light to heavy design and development, full testing required, higher risk, higher project cost, higher state engagement required.
3) **Custom build** – Built to meet identified requirements, complete design and development, full testing required, higher state engagement required, higher risk, higher project cost.

It is important to note that while a Low Code/COTS solution encourages minimal customization, which diminishes the implementation project, there are still vital configuration processes required.

STEP 1: Acquire Low Code/COTS System and Documentation.

When the state obtains the official documentation, the project team must be ready to validate the completeness and currency of all aspects of the documentation. Knowledgeable project staff must review and ensure that the documentation matches and validate the currency and completeness of the code. Too often, vendors fail to keep the document up-to-date or may have updated the documents incorrectly. The project team needs to ensure that inconsistencies and any incompleteness issues are addressed upfront.

STEP 2: Configure the Base System

The project team should establish development groups such as Data Conversion, Core Modules, Reporting, Interfaces, and Customer Service, which facilitate and review, analyze, and make decisions. Security groups may be necessary for individuals with different levels of access, and the project team should address data backup, recovery, and administration services.

- Seed data such as county names, office names, roles, security, IRG, FIPS may be necessary, with PII data masked, as required. Data may need to be generated for tables in some instances using third party libraries.

- Report and Form Headings, Logos, Watermarks, and addresses should be replaced/modified with those relevant to the state.

- Using a code repository and version control methods, code should be promoted and implemented utilizing systematic release management.

STEP 3: Configure Screens

Modifications typically include Header and footer changes, State name, color preferences, labels for fields on a screen, and similar changes to the codes and values that are presented

for user selection on various screens. These kinds of changes do not result in changes to database access logic, presentation logic, or business logic.

Other screen considerations may include the lengths and types of the fields that are currently used in the legacy system and ensuring that these are available in the new system. Examples of this situation include any IDs (such as case ID, Person ID, IV-A Case ID, etc.), lengths of names, addresses, capitalization of names, notes, Federal and State timeframes, and the processing of interstate cases.

STEP 4: Modify Document Templates

Document templates are an area where changes may be required in terms of administrative and judicial documents. While a good portion of the form templates may be used "as is," some of them may need to be made state-specific such as orders and other documents to comply with legal requirements. These kinds of changes may not result in significant changes to database access logic, presentation logic, or business logic. The process for printing notices generated from these templates may vary based on Central or local printing, certified or regular mail, and residential or mailing address, etc.

STEP 5: Interface Configuration

Typically, federal interfaces, including FCR, CSENET, and other interfaces such as IRS, CSLN, MSFIDM, and Credit Bureau Interfaces, are largely unchanged. Changes are only required while mapping the incoming elements to the state data model. Outgoing interfaces were not affected for these interfaces. Other interfaces may require configuration or customization, such as the IV-A/IV-D interface and the Non-IV-D interface, among others. Driver's License and Professional License Suspension, court interface, and pass-through processing differ quite significantly, and changing program policy may not be practical. In these instances, it is important to engage key stakeholder workgroups to facilitate finding the most cost-effective and time-efficient solution.

STEP 6: Data Conversion

Data Conversion is typically the most intensive area of effort. This is usually the result of a lack of legacy system edits, combined with user misunderstanding about the proper meanings of the fields when implementing the previous generation of CSE systems.

   a. *The to-be-converted data is currently housed in a combination of databases.*

   b. *Numerous data tables/files hold the primary data to be converted, representing thousands or millions of support cases, both active and inactive.*

   c. *Additional non-IV-D cases may need to be converted from data currently housed in other databases.*

   d. *The conversion effort is planned around the following key activities:*

i. *Analyze data sources and identify correct mapping to the new system;*

ii. *Recommend pre-conversion data preparation (clean-up) activities necessary to ensure a proper conversion;*

iii. *Develop tools to assist state staff in performing any manual clean-up steps that are required;*

iv. *Develop automated conversion routines to perform the data conversion to the new system, including all data preparation/clean-up activities that can be reasonably automated;*

v. *Automated conversion routines must be able to accept input parameters or otherwise limit the converted data to specific subsets that the state will specify;*

vi. *Develop reports that identify data that require pre-conversion clean-up;*

vii. *Develop pre-conversion quality reports that can be run on-demand in order to assess the progress of manual clean-up and the overall "health" of the to-be-converted data;*

viii. *Develop post-conversion quality reports that assess the quality of the converted data once in the new system;*

ix. *Test conversion routines, using post-conversion reports to measure and report out on progress;*

x. *Further test conversion routines by accessing converted data in the new system through in-development system screens and program modules;*

xi. *Produce regular conversion progress reports that detail the progress of the conversion effort by data source and in aggregate, using pre-conversion quality reports, post-conversion quality reports, and other information source as appropriate to give an accurate account of the completeness of the conversion programming effort;*

xii. *Execute conversion routines for production go-live;*

Establish an archival format and associated tools that allow all legacy data from the production system to be persisted to disk storage for safety-backup purposes. The archival format should be self-describing if possible and should be readable from a variety of toolsets (e.g., XML, .SQL files).

This approach is different in that the customer is provided with the minimum data required for the COTS solution to function as a certified system. The vendor should work with the customer in identifying the source of the existing data and confirming the fit into the new system. The customer accepts the functionality as already developed, and adaptations are made by the customer to meet the data needs. The commitment to accept current functionality as-is "to the greatest extent practical" is imperative to keep the solution low code.

Low Code/COTS is fundamentally a pre-developed solution based on standard business functionality and certification requirements. Whereas a custom build identifies state-specific business requirements, and the system is designed, developed, and implemented to meet them.

Low Code/COTS offers a low cost, quick implementation, of a proven solution with limited customization, while the custom build offers extensive customization at a cost and timeline proportional to implementation complexity and, as a new product, does not have a proven outcome.

Low Code/COTS can quickly expand to a costlier customized solution if not mitigated by strict scope management, a willingness to change processes where possible, and involvement of knowledgeable child support staff in decision-making. This risk can be mitigated by the following actions:

- **Providing clear, consistent, and continuous communications about the intent of accepting the solution as-is and the reasons why (cost-effectiveness, process improvement, etc.). This must be conveyed to state and agency leadership as well as to state staff and contractors.**

- **Ensuring the project management team fully engages the Child Support Program staff on all project decisions.**

- **Continuing the Business Process Reengineering process throughout the life of the project to ensure all opportunities for process change is acted upon before modifying requirements.**

2. With reference to the "core" functionality required by the OCSE Systems Certification Guide (Case Initiation, Locate, Establishment, Case Management, Enforcement, and Financial Management), how does this approach handle each area? In particular, since Child Support requires complicated financial processing, e.g. distribution rules and arrears calculations, please address how these are handled with this approach.

The Low Code-COTS is delivered with functionality that is already proven to conform to a certified system. The key is making sure the data is available from the customer to allow the processing to flow as expected.

There are configuration settings available to allow for the common state to state adjustment needs such as billing dates, interest amounts, fees, distribution choices (e.g., pass-through), allocation among cases, arrears rules, etc. Adjustments beyond the basic configuration settings can be made as add-ons/enhancements.

3. What COTS or other products are used in conjunction with this approach to give a state a fully functional system?

A modular Low Code/COTS solution can be utilized as a fully functional business solution or utilized by module (Locate, Establishment, etc.) as configured to the client's needs. Each module is existing code that can be invoked independently or as integrated modules in a complete business solution. If used independently, interfaces will need to be built between the new module and the rest of the legacy system.

The code can reside on client hardware or as a cloud-based solution. While the client based configuration offers the client direct control over the solution environment, the cloud-based solution assumes responsibility for hardware cost, solution maintenance, and security.

4. Under what circumstances does it make the best sense for a state child support agency to consider this new approach versus other possible means of modernizing its child support system? Are there any characteristics of either a state's IT system or its business processes that lend themselves more to this approach?

Low Code/COTS makes sense for any agency that is interested in quickly providing its users and their customers with improved services. This approach greatly reduces the amount of time needed for requirements and design and provides a solution that is already proven to function efficiently.

A Low Code/COTS solution is a best practice in situations where funding is constrained, risk tolerance is low, client project resources are limited, or client project executive support is tentative, the need for user functionality or Federal certification is immediate, or the exposure to an unproven outcome is untenable.

Key characteristics for this approach include:

- **Alignment with Low Code/COTS product processes**
- **Alignment with COTS data requirements**
- **Acceptance of COTS solution with minimal modification**
- **Quality of existing data or the ability to support data cleanup efforts on all levels**
- **Willingness to modify business processes to align with COTS processes**
- **Governance that allows for collaboration across stakeholders to standardize processes**
- **Ability to commit to an emphasis on Organizational Change Management**
- **Provide a dedicated team of users to be trained as Super Users to learn early and support their offices**

5. Generally speaking, what should a state expect on the following: project timeframe, project cost, time to rollout statewide?

It is believed this can be accomplished in as little as 24 months contingent on the quality of data, number of users, and the method for rollout. The shortest and least expensive would require:

• **Fairly well-matched data that is of decent quality or easily resolved**

• **Minimal customizations**

• **User community that can effectively utilize online/broadcast training model**

• **A single statewide rollout (aka Big Bang)**

The project cost would be contingent on the product price, data conversion effort, and scalable installation, configuration, staffing, testing, and implementation costs.

The largest categories of work are typically Data Conversion, Directed Upgrades, and Interface development.

6. The states don't want to again face the major system build and cost challenges once they have modernized. If they choose this approach, what is the continuous improvement model for the platform? Will the states benefit from the vendor efforts without major costs?

As with the majority of COTS-based software, the solution will include an annual cost that ensures that all of the customers with the product receive regular updates as general improvements or fixes are made. This would also include support provided to ensure the updates can be loaded and implemented in their specific platform version, etc.

Additionally, Low Code/COTS is a base code set that meets certification criteria, but it can be modified to enhance business functionality or the end-user experience over time at the client's discretion.

Consider planning for a Release B to put all (or a portion) of the enhancements the state team identifies that don't fit the "accept the product as-is" paradigm. At the end of the project, the state can prioritize these enhancements to fit into the parameters of the number of hours allotted for Release B.

Create a change advisory board that includes representatives of all partners, including private vendors, to help prioritize enhancements in Release B.

Consider improvements to the system that may be added after the implementation of the base system. Make these optional buckets of work that can be priced separately during the M&O operation.

7. What are the most important things that a state should do to prepare for this approach?

Contracting

Include Implementation components in the RFP. Include information on how the state intends to deliver the new system to the end-users. Training, Organizational Change Management, Deployment support (on-site and Helpdesk) are key elements to a successful replacement project. Any guidelines or requirements that the state could provide around the delivery of the system would assist in the definition of a solid budget and schedule. Some general questions include a big bang or phased rollout, requirements for classroom vs. web-based training, on-site implementation support vs. helpdesk support, specific training tools (LMS), or Helpdesk tools.

Define the state criteria for project success and specify these in the Project Charter, RFP, etc. These criteria will define the project roadmap, validation processes, product acceptance, and project closure.

Reduce Deviation from the Low Code/COTS System

Align processes as close to the product as possible. Review training documentation, align personnel to meet the system design, implement as many process changes prior to implementation as possible. Extend the Business Process Re-engineering effort throughout the project.

Prepare state users to modify existing processes to support the certified solution rather than modifying the certified solution and potentially degrading it to support existing processes. This is expensive in money, time, and resources and puts product certification at risk.

Take the opportunity to make as many changes to its business processes as possible prior to implementation. This does several things. First, it provides the staff with a vision of the changes that are coming. Second, it involves the staff in the change process so that they become part of the solution. Finally, it reduces the amount of change necessary during rollout. This could be an opportunity for the state to identify best practices among its outsourced vendors and implement these best practices statewide for increased collections in the period prior to implementation.

Identify functionality needs or enhancement "wants" that can be moved to a planned maintenance release. Doing this throughout the project will ensure users and stakeholders that their voices are heard and their ideas for enhancements will be addressed at a later date.

Create a Forms and Reports Committee to review and compare the state and product forms and reports with a goal of accepting as many of the product forms as possible and eliminating unnecessary, rarely used, or local reports and forms.

Establish a clear, rigorous change control decision tree so that potential modifications can be evaluated uniformly and expeditiously. For example:

- **Is the change required for certification?**
- **Is the change required to meet state laws or regulations?**
- **Can law/regulation be changed?**
- **Is the change necessary to meet business process?**
- **Can the business process be changed?**
- **Will change help improve performance?**

Reduce Conversion Anomalies

Ensure data uniformity that meets the state standards. Using state system documentation, do preliminary work to identify gaps in the data structure (e.g., Field length, leading "0", etc.) The data mapping should be concentrated at identifying gaps in existing data that would limit or require modification to the scope of the requirement.

Conduct data clean-up on a routine basis beginning as soon as possible. Instead of relying on pre-conversion reports, quality reports should be sent out on a regular basis to help identify pending fixes to data errors (e.g.COTS-based incorrect dates, DOB's in the future, and other data anomalies). Data clean-up reports should also be expanded to identify any business data inconsistency. These may be due to a lack of adequate validations in the current system. Post-conversion quality reports should begin to run every time a full data conversion gets executed, even during the development cycle.

Consider adding additional categories for data that might not follow the new business model. In all of these cases, the state should begin to identify default values for each field in case the data is not fixed prior to the cutover. Finally, default values must be identified for missing data elements that cannot be gathered prior to conversion.

Seed Data Gathering – the state should begin analyzing and start preparing data in electronic format to expedite conversion. as-is includes role assignments, document templates, user profiles, other party names and addresses, EFT information, FIPS codes, scheduling details, State holidays, error codes, etc.

Determine if closed cases will be converted. For example, a determination to convert cases closed longer than one year to a read-only report would reduce the number of cases to be converted while retaining research capabilities.

Improve End-user Acceptance

Conduct demonstrations of the Low Code/COTS system to staff and other users to get them used to the look and feel of the system and to assist in identifying changes that can be made to current policies or processes to better conform to the new system.

Prepare a user mindset to accept change. Never sacrifice functionality but accept it is very possible there is another way of doing things.

Engage in Organizational Change Management prior to and throughout the project. Organizational Change Management will help identify and remediate barriers to successful implementation. Organization Change Management will help with project communications and user acceptance. Organizational Change Management should be a natural offshoot of the BPR process. Both of these efforts should be ongoing during the life of the project.

Staffing

At a minimum, the State will need:

- Project Director to oversee the entire project and liaison directly with the Child Support Director and the Project Manager
- Subject Matter Experts (SMEs) for the functional, interface, and data conversion work
- In-house IT Support for hardware, network, and security issues
- Child Support Staff for data clean-up activities

The State will also need Project Management and Quality Assurance Resources as required by OCSE. Some states have project management and QA resources in-house or utilize staff augmentation contracts to "procure" these resources individually and as needed. Other states contract out for these functions through RFPs.

The use of in-house project management with some staff augmentation is beneficial for the state for three reasons. First, it promotes the direct involvement of the Child Support program with the replacement project. Second, it can be more cost-effective for the state than outsourcing these functions. Third, it can save the time and expense of outsourcing Project Management and QA functions through the RFP process.

In any instance, the Project Management and QA staff should be tied very closely with the State's Project Director and clearly understand the state's expectations. They should be committed to timely decision-making and aggressive scope control.

Prepare state resources for project work through formal project education or a contractor provided project emersion process.

Develop a strong communication plan and engage stakeholders throughout the process.

Define a Change Control Board with knowledgeable state staff dedicated to the success of the project and with the authority to modify the project budget, scope, timeline, and quality.

8. How does this type of child support system fit with states who need to have an enterprise approach? Many of the platforms seem to be creating the same old silos on a new platform. Is it possible to have one casefile for each person/family across the systems (child support, SNAP, TANF, family services, etc.)?

It is possible but would very likely require further federal guidance/regulation that mandates this single person/single family casefile.

This would require states to utilize a single case registry across all entities with fully integrated business processes. For most states, this would require Business Process Re-engineering prior to defining solution requirements.

A third party software, such as Protech's Good Grid, can sit on top of existing legacy systems and allow "siloed" agencies to share information in collaborative workspaces. Data sharing can be controlled directly by the client to avoid data-ownership and HIPAA/PII issues.

9. What haven't we asked that we should have?

How do states define the criteria to select an appropriate solution?

• **Define the available budget, certification or required functionality delivery timeframe, required functionality, willingness to pay for customization, executive management level of support, availability of state resources to be dedicated to the project, tolerance for working through post-production issues.**

How do states define project success criteria?

• **Define expectations specifically, with measurable criteria and establish the threshold for success.**

  o **For example, the software will be installed and fully supporting business operations, in production, at all state sites, and without any workarounds or defects that affect business functionality by XX/XX/XXXX.**

How do states prepare for a successful project?

• **Utilize other states and contracted providers six months to a year before the project begins to identify areas of concern or potential opportunities. Invest in project education and select project staff according to their skillset alignment with project role requirements. Migrate lessons learned, risks, and issues from similar, previous projects vetting the content to find associations with the forthcoming project and begin proactive mitigation. Engage in standard project ceremonies early so that they are second nature when the project team needs to use them (Change Control, Issue escalation, Risk Management, etc.).**