

NCCSD Systems/Data Workgroup Vendor Webinars – October 18, 25 and November 1

COVER PAGE for Answers by Vendors

Attached please find the answers provided by **Protech Solutions**, 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.

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.*

NCCSD Systems Workgroup Vendor Forums – Q&A related to Refactoring/Replatforming

Vendor Name: Protech Solutions, Inc.

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

Questions:

1. Please explain how your company defines both replatforming and refactoring.

Re-platforming migrates parts or all of the computing system to another hardware or platform. For state projects, this is typically considered a key component of “modernization.”

Refactoring is the process of restructuring existing computer code without changing its external behavior. For states, this can be converting code from one programming language to another.

2. Are you able to share any screen shots of a "before" and "after" implementation of this approach?

3. Under what circumstances does it make the best sense for a state child support agency to consider refactoring/replatforming 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?

The typical driver for either approach is obsolescence.

Re-platforming addresses hardware obsolescence and Refactoring addresses software obsolescence.

Obsolescence can be organic, simply because technology and functionality have changed or because the existing products have outlived their warranty/supportability lifecycle.

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

For Re-platforming, project timeframe, project cost, time to rollout statewide are all dependent on the similarity of the existing and new platforms, size and complexity of the content being migrated, integration touch points with other systems, security requirements, and approach to migration.

- ✓ **If platforms are similar, the risk of configuration or incompatibility issues is reduced.**
- ✓ **If the existing system is antique, with a limited pool of people still knowledgeable of the system, migration requires focused research and, sometimes, trial and error complicating the process.**
- ✓ **A small, simple system is easier to migrate and test than a large complex system.**
- ✓ **Systems that are highly customized can include quirks that have to be remediated or normalized in the new system.**
- ✓ **Integration points have to be re-established and tested, so each interface increases complexity, cost and time.**
- ✓ **Typically, the existing system has to be at rest to migrate some functionality; this means finding window where that functionality is not active or shutting down the system to create a window, which can impact production operations. If the system can be replicated from an exact duplicate (mirrored backup), these situations can be avoided.**
- ✓ **Testing the new system and moving operations from the old system to the new system can be addressed by numerous methods, each having its own pros and cons and impacting the project differently.**

For Refactoring, project timeframe, project cost, time to rollout statewide are dependent on many of the same criteria as for Re-platforming.

- ✓ **If the code sets are highly compatible, without a great disparity in age or technology, tools can be used to accomplish the bulk of code conversion; otherwise, code may have to be manually replicated.**
- ✓ **Conversion doesn't always translate functional code into functional code (like translating Greek to Latin, one language may not have an exact match in the other), so code has to be tested and sometimes rewritten. Additionally, libraries, functions, parameters and coding standards may be different requiring meticulous manual focus to provide the same functionality while invoking current libraries and functions and complying with modern coding standards.**
- ✓ **The size, complexity, and customization of code have a direct impact on the effort, duration, and cost of refactoring.**

- ✓ **Integration points must be re-established with new methods, and each needs to be tested with the interface partner.**

Thoroughly testing the resulting code is crucial to verify that functionality has been accurately replicated.

5. Please list and explain the pros and cons, and any common pitfalls the states should know, for refactoring/replatforming. What surprised you in your implementations?

- **Re-platforming can greatly increase performance and security while extending the life of an existing system when accomplished successfully.**
- **Re-platforming from a local system to a cloud-based system may offer advantages in security, performance, accessibility, and maintainability.**
- **Even in highly similar systems, Re-platforming will encounter incompatibility and configuration issues that are unforeseen and need to be resolved.**
- **If system functionality is highly customized or not available in existing products and the hardware is becoming obsolete, or the existing system cannot be modified or upgraded to offer the required functionality and performance, Re-platforming may be a viable option.**
- **If business processes can be modified to support a proven, existing product that offers most or all of the required functionality to conduct business operations, then installing modern software on new hardware may be the best option. This option typically includes warranty support, as well.**
- **Refactoring is best for simple, compatible systems that are easily replicated or systems that have no potential market replacement.**
- **Due to the time and manual focus involved, refactoring large or complex systems is typically more expensive than buying a market replacement.**

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

- **The state should conduct discovery to define the required capabilities of the future system and the critical aspects of the operating environment.**
- **The state should determine the driving factors for transitioning from the existing system and research modification and upgrade options that may extend the system's serviceable lifecycle.**
- **The state should utilize the feasibility study to develop expectations and success criteria for the system.**
- **The state should communicate with other states and contractors that have conducted Re-platforming or Refactoring to identify risks and opportunities prior to pursuing a decision.**

7. How does this type of child support system modernization effort fit with states who need to have an enterprise approach?

Refactoring and Re-platforming are viable approaches to migrating an existing or transfer system and should be compared with all market options and hardware environments prior to making a decision.

While each state is unique to a degree, the base functionality and performance requirements are consistent across states when scaled to the transactional usage. Consequently, successful certified solutions in other states are an important factor in defining solution options.

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

How important are capacity and performance?

- **Capacity and performance come at a price, and while it is always desirable to achieve the best performance and most capacity possible, a lesser degree of either may be sufficient and lower the price point of the required solution.**

Is the state capable of maintaining the solution in Maintenance and Operations?

- **If the state has limited staffing or system knowledge, it may be best to pursue an extended maintenance package with a vendor or move to a cloud-based solution with maintenance included.**

Can the state partner with another state to utilize an existing, certified solution sharing the operations costs?

- **If operations are similar to another state with an existing, certified, modern solution, it may be worth researching the possibility of leveraging their system to process the state's operations, minimizing the migration project scope.**