NOTICE TO ALL PROPOSERS: We have further broken down the requested items into our order or priority. There are certain items which are required by us as part of the overall project; however, in order the manage costs, we would like proposers to break down their proposals to allow us the ability to break out non-critical components in the event they are deemed cost prohibitive at this time. This does not mean we would not like all components to be integrated at some point in the future, so the initial system proposed should be expandable in the event we wish to add these on in future budget years.

PRIORITY COMPONENT: We need a web-based customer request management system that will allow researchers to select from a menu of services provided by the Center of Translational Medicine. Attached are screen shots of the existing system created by UTSW staff. It is only an initial phase and does not follow the entire process of the request. Of importance, we will consider off-the-shelf programs if they either already meet our needs or are customizable to meet our needs. If this is the method selected by UTSW, then the right of ownership does not apply.

What we already have:

Screen 1 is the researcher selection page, which asks for the name of the investigator who needs the assistance (note, we would like assistants to be able to request on behalf of their investigators).

Screen 2 shows the list of investigators who match the name entered on Screen 1. The user may select from a list of individuals who were set up by the CTM in the system or they can select from a list of researcher populated from the UTSW PeopleSoft system. They can also create a new investigator if that researcher is from one of our partnering institutions.

Screen 3 shows the data pulled from PeopleSoft. Certain fields are modifiable since reporting demographic information is voluntary.

Screen 4 is the study-selection page, which integrates with the UTSW eIRB system that lists all of a researcher’s studies that have been approved by the Internal Review Board. Researchers can either select an existing study or can enter a new study that is not yet in the IRB.

Screen 5 requests additional information about a study.

Screen 6 is the service selection page. This is a brief drop-down menu that then requires the researcher to enter free-text describing their needs. We want to expand this section of the system that will allow a full menu from which to select services, with a secondary
selection menu based on what was chosen from the main menu. Some services require an additional form that is generated outside of the system at this point; however, we want to integrate all forms into this new system.

Once a service is selected, an Outlook e-mail is sent to a pre-specified individual who is responsible for routing that request to the appropriate staff member in that department. There is only one initial notice sent to this individual. We need multiple notices sent with instructions to log into the system to update the status, indicating who the request was assigned to, when it was assigned, etc.

Screen 7 is the page on which interactions can be entered; however, there is no current process that directs service providers to record those interactions.

Screen 8 is a summary of the interactions and project.

What else we need:

Overall goal of CRMS:
- Allow investigators to request services or resources provided from the CTM
- Allow interactions between investigators and CTM service providers that are tracked by the system
  - e-mail communications, including timed reminders for service providers to enter interactions
  - series of check-boxes that will indicate status of project
- Date collection/stamping of interactions to provide information regarding length of time taken from request to completion
- List of services and resources from which to choose
  - Series of drop-downs which, depending on the selection, may provide further drop-downs to refine
  - If more than one category of services is selected, make each selection a separate request that will be tracked independently of the other services
  - Routing: (couple of options on this one: either designate individual who will be assigned each type of request or send to primary core contact and allow them to assign. In every case, the primary core contact should be notified of initial request.)
    - Depending on selection, will route to a designated individual
      - That person will log in and indicate who in their component has been assigned to work the request
      - Generate an e-mail to the assignee
      - All communications regarding project should go through this system
- Generate e-mails after so many days of inactivity to request status update from assignee
- Survey PI after completion of project
- Send regular reminders to PI to update contact information in the event they are leaving the university.
- Send regular reminders to PI to notify us if they have any publications
  - Include reminder to cite the grant if they used our services in developing the data that contributed to that publication.
• Custom forms for the various services or resources collected
• On-line applications (all savable so that PI not required to complete in full at one time)
• Reminder notice of quarterly report deadlines
  o Allows submission of quarterly reports to CTM from PI
• Scholars program application
• Other data collection as negotiated
• Generation of custom reports through a system that will ideally allow us to select from a menu of information, such as, list of all Professors served, list of all PIs who used Bioinformatics, etc.
• For the education program component:
  o We will need a variety of on-line forms to collect various information from students.
  o A checklist of classes for students to select from indicating what courses they have completed
  o A checklist indicating how they paid for their courses
  o Administrative ability to indicate student progress, etc.
  o Reporting on the various data collected

OPTIONAL COMPONENTS (please propose each separately):
  1) Link to One Note (or other system, PubMed preferred) to pull publications on which the PI is an author
     a. Report which will provide a list of publications during a certain time frame; a list of publications from certain PIs, etc.
  2) Link to internal eGrants system to pull grants awarded to the PI
     a. Report along the same line as 1)a.
  3) A navigator overlay that directs PIs to the services they should select at certain points in their research
     a. Would include a status list from which the PI would select
     b. Would describe to the PI the next step and list the services needed for that step
     c. Might require an affirmative response that a step has been completed in order to allow the PI to move to the next step.

1. Deliver a custom software package exclusively for UT Southwestern Medical Center to be owned by UT Southwestern upon completion.

   a. Ownership has multiple meanings. Please better define the motivation behind ownership?

RESPONSE: This customized program will be purchased utilizing grant funds from the National Institutes of Health. As a result, we are required to share resources developed by the UTSW Center for Translational Medicine with other CTSAs funded by the NIH. However, the other CTSAs who might request use of the system may not necessarily have all of the same systems in place that will be integrated at UTSW.
Assumption: We assume custom software development leveraging an open-source code base (under GNU or GPL license terms) to be deployed in a Private Cloud provided by customer (FireHost, Amazon, Rackspace) not to be distributed commercially for resale. Is this correct?

RESPONSE: This program will NOT be distributed commercially for resale. NIH requires that resources developed by CTSAAs must be shared without cost of the other CTSAAs; although they will likely have to utilize all of the same platforms and programs to which we connect in order to utilize the custom program. Many CTSAAs already have custom programs that other CTSAAs cannot utilize because those programs connect to other custom programs within that CTSA. It is not our goal to develop a program that is usable by all CTSAAs, only our own; however, if other CTSAAs utilize the exact programs we do, then we are obligated to share the code for our custom program.

Validate our assumptions below.

<table>
<thead>
<tr>
<th>Open Source Platform with Perpetual License Cost</th>
<th>Customer will NOT consider subscription costs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Source Platform with Subscription Cost</td>
<td>RESPONSE: We might consider it.</td>
</tr>
<tr>
<td>Open Source Platform No License Cost and General Public License (GNU GPL or GPL)</td>
<td>Customer WILL consider perpetual license cost with open source code</td>
</tr>
<tr>
<td></td>
<td>Customer WILL consider open source code base without license cost under GNU or GPL</td>
</tr>
<tr>
<td></td>
<td>Customer does not intend to build software for commercial resale and distribution.</td>
</tr>
</tbody>
</table>

Deployment
- On-Premise Implementation
- Private Cloud
- Contractor Hosted

Customer intends to deploy On-Premise or a Private Cloud. RESPONSE: Either method will be considered.

Ownership of all code
- This would exclude open source community software with GNU or GPL license requirements.

Customer does not intend to control the copyright of all the source code of the software. RESPONSE: No.

2. Develop a comprehensive, web-based software package solution to manage all interactions between the Center for Translational Medicine (CTM) and individuals or groups seeking to utilize resources made available by the CTM and to analyze data collected as part of those interactions. Features of the package include, but are not limited to:
Question: Define users of the application (CTM and Resource Requestors).

RESPONSE: The Center for Translational Medicine is an NIH-funded Clinical and Translational Science Award (CTSA) which provides infrastructure and services for research investigators to utilize in order to undertake and complete medical research projects. Resource Requestors include all researchers at UTSW and at our partnering institutions. We roughly estimate 100-200 investigators setting up accounts and requesting resources, although that is solely an estimate.

Question: Give example of a resource request?

RESPONSE: Investigators will utilize the program to select a pre-populated list of services needed to conduct a study. Depending on the service requested, there may be additional information requested via custom forms, etc. to collect the necessary information required by each service provider. This could also include the need to request that the applicant upload a document, such an abstract or a CV.

Question: Give example of resource type and nature of availability.

RESPONSE: Investigators can request such services as statistical consultations, research participant recruitment assistance, pilot funds to conduct a research study, research space or nursing services to conduct a research study, database design for capturing research data, etc. Nature of availability will only apply to pilot funds, and we will know internally if funds are available and will notify requestors, ideally by being able to add a notice in the program on the application screen.

Question: A Use Case or Story would be helpful.

RESPONSE: Example: a researcher would like to request $25,000 to conduct a research study. S/he would select Pilot Grant as the service requested. A sub-menu would then appear that will allow the researcher to select the various items which he would like the use the funds for. The sub-menu will list only services provided by the CTSA. Services provided by other campus cores may be entered free-text with the ability to upload a quote from that core. Following would be a brief application that requests such information as the purpose of the project, the hypothesis, the research methodology, and the proposed plan for seeking extramural funding. The CTM will then route the request to an internal reviewer(s) who will score the application. The system would allow us to notify of award. We would also ideally like the system to connect to PeopleSoft to track the available funds remaining on the award during the period of the award.

a. Serve as the primary portal for service and resource requests.

Question: What is the current system for these requests? Can we see examples of the process and forms being used today for service and resource requests?

RESPONSE: We have an existing early-phase web-based program. We can provide screen shots of all pages which has been created. We anticipate utilizing similar opening pages in the new program.
b. Track the usage of the various resources in order to determine demand for those resources.

**Question:** Track them how? Utilization? Scheduling Availability? Inventory Picking?

**RESPONSE:** We will need to track utilization to help us determine services for which there is high demand. Utilization includes the number of requests for a specific service, the number of individuals actually served, and the outcome of the provision of service. For example, did a request for statistical support result in an investigator obtaining extramural funding.

c. Collect demographics of users.

d. Track career history of users, including grants, publications, promotions, etc.

**Question:** How many users?

**REQUEST:** Estimated at 100-200. Much of this information is contained within our LDAP system and we hope to establish an integration with that system.

e. Track degree plan, course enrollment, grades, publications and employment history of Clinical Scholars program participants with 10-year reporting history.

**Question:** Is integration to any other software system needed to meet any of item e? If yes, describe source system and architecture, location, API documentation.

**REQUEST:** The education database will need to interface with PeopleSoft (Campus Solutions and HCM), and eGrants.

f. Create Individual Development Plans (IDP) for students and track progress.

**Question:** What does this look like now?

**RESPONSE:** This is an existing form that we would like to convert to paper format to include in the program. See attached – would like to be able to auto-generate this for our active students (approximately 30 people at any given time).

g. Track grant submissions and status – synced with the existing UT Southwestern grants database.

**Question:** describe source system (Grants Database) architecture, location, API documentation, existing middleware tools, frequency of integration needed (ie. real-time, weekly)

**RESPONSE:** There is no current API or middleware tool for access to grants information. It will have to be provided by a regular data extract file, likely at a frequency that is not real-time.

h. Track course evaluations.
Question: Need more detail on data requirement.

RESPONSE: We no longer need this.

i. Ability to interface with various internal and external databases, programs and applications, e.g., PubMed, eIRB, eGrants, PeopleSoft, SciVal. This list will be determined by on-site visits.

j. Generate custom reports (person-based and project-based) with the ability to export data.

3. The solution needs to be iPad/tablet compatible.

Question: Mobile Responsive HTML5 or Native iPad / Tablet application

RESPONSE: Would prefer mobile responsive HTML5.

4. Provide technical documentation including database schema.

5. Provide documentation of browser compatibility.

Question: List browser requirement (ie. FireFox, Chrome, Explorer, Safari)

RESPONSE: We have to be very flexible with browser requirements and ideally it would at least support Firefox, Chrome, and Explorer.

6. User training guides developed in coordination with key CTM personnel.

7. Please include pricing structure for ongoing technical support after implementation, e.g., cost “per hour”, unlimited, etc.

8. Deliver web-service or API that will allow UT Southwestern to update, add, delete or alter technical and user interfaces.

9. Ability for UT Southwestern employees to login with their institution User ID and Password.

10. Allow for auto account creation by new, external users.

11. Self-service password recovery capability.

12. Recommendations for hardware/software requirements.

13. Recommendation for hosting application data.

14. Facilitate integration testing and user testing and sign-off.

15. Project management, knowledge transfer, and documentation for all the tasks involved.

Please provide clear and specific answers to ALL of the questions below:
16. Describe how you envision the discovery and development process to go, specifically the frequency and mode (e.g., on-site, online, phone) of meeting.

17. Describe all technologies you can build in.

**Question:** Any technologies preferred or pervasive in the environment?

**RESPONSE:** No.

18. Describe how service will be developed, i.e., individual programmer/developer or team-based approach.

19. Describe your plan for implementation.

20. Describe your longest-lived custom application, i.e., which industry, how many users, platform(s) used, system function, etc.

21. Describe a recent custom system you have built, the industry for which it was built and an approximate number of users for which it was built.

22. Provide screen shots of a recent project or a full demo, including reports, if possible.

23. What is your company’s support model?

24. What is your company’s software development methodology?

25. What is your experience with UI design?

26. Provide identified resumes of possible architects, analysts, project managers, programmers and developers who will work on this project.

**Question:** What motivated the need to formalize this project?

**RESPONSE:** Two reasons: 1) we need to ensure we allocate our grant resources to those services for which there is higher demand and success, and 2) future funding for this program is contingent on the successes we are able to report in new applications.

**Question:** Have you attempted this project in the past?

**RESPONSE:** Yes. The specialized skills needed for a project of this nature do not exist within our own department and other departments do not have the staff time to support this project. We have only had small phases completed on occasion, and we don’t have the time to continue piecemealing this project.

**Question:** Has a budget been earmarked. Or will one be created after receiving proposals?

**RESPONSE:** A firm budget has not been earmarked; however, the budget is not unlimited. As a result, we are open to consider proposals which break down the various
aspects of the request into a menu that will allow us to select the higher priority features that will fit into our available resources.

**Question:** Is doing nothing an option?

**RESPONSE:** No, therefore, we are open to breaking out certain more complex and expensive aspects of the project so long as we maintain the basic needs, which are to provide a web-based portal for researchers to request services and to track the nature of interaction that occurs in response to that request.

27. What do you mean by open source?

**RESPONSE:** See earlier response.

28. Are you open for a cloud based solution?

**RESPONSE:** Yes.

30. Are all the systems possible candidates for integration is the data accessible?

**RESPONSE:** Will have to determine during requirements gathering.

31. Whose responsibility is it to make sure there is access to all the data?

**RESPONSE:** There is a governance process for building interfaces, and it varies for different systems. We will have to create a request and find out what the timeline would be for the various interfaces requested.

32. What systems does the data reside in? Please identify them.

**RESPONSE:** Depends on the data, so we will have to determine during requirements gathering.

33. Which one of the systems do they control and easy ways to set up access? We don’t have any technical concerns in building processes, but what is the boundary of scope?

**RESPONSE:** We do not have control over the timeline of setting up the interfaces and it can vary with each system, but the access to data would not be an issue.

34. To what degree are we integrating the data so there is one place to see it vs needing to create data within the application?

**RESPONSE:** Will depend on requirements gathering.

35. 5.3 #2 - what does track mean? How much integrating and being in sync with outside systems? 2 way integration?

**RESPONSE:** See description of “tracking” above. If we understand the question, then all integration will be one-way, from university source systems into the developed system.
36. 5.3 #2. f. Define what is an individual development plan? Key components and confirm that this information will be created and entered through web app to be build and not integrated from another source.

RESPONSE: See attached IDP for what will need to be included. The minimum requirements for the IDP are a “progress report” type of document that also includes attendance (tracked by the database via data entry). Ideally, we would be able to export this IDP as a Word document so it can be edited and added to.

37. 5.3 #2. j. how many custom reports would there be? Is the expectation that [the vendor] creates these reports or the system supports them building their own custom reports? How frequently would new reports be needed?

RESPONSE: We would like the ability to generate reports at any time and which allow us to elect which data the report will contain versus standard reports that are not flexible. The reports might include the number of requests for services, the services requested, the career level of the researcher making the request (this latter is available via connection to the UTSW LDAP system.

38. #8 explain functionality desired relative to user interfaces vs data

RESPONSE: Would be defined in requirements gathering.

39. # of users
   a. Internal users

   RESPONSE: Estimated to be 150.

   b. External users

   RESPONSES: Estimated to be 50 or fewer.

   c. Who will need access to dash boarding functionality?

   RESPONSES: CTM staff, core directors, and program managers. Estimated at 25 people.

40. What is the budget for this solution?

   RESPONSE: The budget is flexible depending on how the bid is broken down. We would recommend that bidders break down the various components of the request to allow us to eliminate certain non-critical or overly-expensive items depending on cost.

   1. Please clarify “deliver a custom software package exclusively for UT Southwestern Medical Center to be owned by UT Southwestern upon completion” Will UTSW be interested in software that the university can have license to use on an annual basis? The way I read the above requirement is that you want to develop a new software on your premise using a vendor team.

   RESPONSE: See responses above. We are also open to reviewing off-the-shelf programs if they provide the functionality needed with some level of customizability where some
items are lacking. Obviously, the requirement of source-code ownership by UTSW would not apply in these situations.