CMU 2811
REQUEST FOR PROPOSAL
Section 5.5.2: Planning & Design

Issue Date: July 25, 2024

Proposal Due Date: August 26, 2024, 11:00 AM MST

Contents

1.0 Introduction

Section 5.5.2 provides activity and responsibility guidance to the System Integrator as it prepares its response and is not meant to replace or dictate the System Integrator's methodology approach. However, CMU asks that the System Integrator clearly indicate any material exceptions to contents of Section 5.5.2 to CMU. The Supplier shall review all RFP documents, including other Schedules and Exhibits, to understand the expected services represented in this document.

Services Overview

Section 5.5.2 Planning and Design services include the design work for replacing the current legacy ERP with a modern ERP, which will include retiring certain applications while building interfaces with others that are planned to be retained. The Services will include validating that the edge applications have been rightly identified as 'retire or retain' based on the capability of the new ERP to support the necessary business processes.

In Planning and Design activities, the Supplier will leverage the recent work that has been done by CMU as part of business process assessment / discovery activities (e.g., Use Cases and Capability Framework) performed by CMU, to deliver the services and deliverables.

Section 5.5.2 Services include the following:

- **Planning Services** – includes initial planning for scope, resources, schedule, overall approach, tools & accelerators, environments, disaster recovery and fault tolerance, budget, integration, data extraction / cleansing / conversion / loading, testing/performance testing, deployment/rollout, and post-go live support.
- **Design Services** – include the up-front design activities as well as subsequent design required for retrofit. These services include the following:
    - CMU Core Team ERP Software Product Training
    - Gap/Fit and Requirements Analysis
    - Core Design
        - Process Change/Reengineering Design (Business and IT)
        - Reporting/Analytics Design
        - System Architecture Design
        - System/Data Integration Design
        - Data Normalize/Rationalize/Cleansing/Conversion Design
        - Extension/Customization Design
        - Security & Controls Design
    - Value Realization Design

1.1 Coordination with Other Planned/In-Process Initiatives

The CMU Program Leads, working with the ERP Steering Committee, as well as other CMU project managers assigned to various relevant projects, will coordinate with other planned or in-process initiatives and inform the Supplier of any potential impacts. CMU's planned governance structure and processes will provide support to any key decisions that result from any associated interdependencies.

CMU is currently implementing EAB's Edify platform to improve data sharing and governance, manage the flow of data between business applications and data sources, and expand the University's reporting and analytics capabilities to achieve desired business outcomes. Edify is a comprehensive higher education data management platform that provides all the functionality of a modern data management stack in a single platform to include data lake, ETL/ELT, master data management, data catalog, data workflow, data monitoring, and analytics solution. It is CMU's desire to leverage the Edify platform for its HR and Finance Systems Transformation project to limit the initial and ongoing cost of maintaining data integrations and historical data. Vendors must describe their Software-as-a-Service architecture considering how it will integrate with the Edify data management platform.

2.0 Planning Services

Planning Services are intended to ensure up-front alignment on scope, governance, roles/responsibilities, plans, resources, dependencies, and other standard core program components required for a strong and aligned CMU / Supplier collaboration. In addition, Planning Services produce specific planning deliverables that are prerequisites for an effective and efficient design phase.

2.1 Engagement Principles

The following principles have been developed to guide the project team in its approach and decision-making processes throughout the life of the project. Supplier agrees to follow and adhere to the following guiding principles:

- Key decisions will strongly consider the impact to and benefits for CMU's business operations; decisions will not be made in silos solely for the benefit of an individual business unit and/or function. Decisions must also take into consideration CMU's values as a higher educational institute.
- The focus will be on process transformation and delivering on core objectives while driving towards solution standardization, with exceptions being made only if competitive advantage can be designed through differentiation or efficiencies derived through effort reduction.
- Supplier will actively engage CMU to mutually build their understanding of and commitment to making this change successful. Knowledge transfer through ongoing collaboration and explicitly planned training opportunities is expected within the Supplier's offered services.
- Projects of this magnitude and complexity require a disciplined project planning process that emphasizes ***adherence to scope, timeline, cost, and quality***. Supplier will leverage experienced industry, process, and software vendor resources to meet these objectives.
- CMU's employees not dedicated to the ERP project are highly engaged in running the daily business. Supplier will work to minimize the interruption to CMU's daily operations through proper planning and scheduling with CMU resources.
- Supplier must participate, as requested, in independent quality assurance reviews at periodic intervals throughout the project, if CMU chooses.

2.2 Planning

Table 1 identifies the roles and responsibilities associated with the planning services. Supplier should strongly consider CMU's expectations set forth in Table 1 when developing the proposal response.

For the table in this Section 5.5.2, an "X" is placed in the column under the Party that will be responsible for performing the task:

- The Supplier's responsibilities are indicated in the column labeled "Supplier".
- CMU's responsibilities (including responsibilities of CMU or CMU's contracted third parties) are indicated in the column labeled "CMU."
- If an "X" is placed in both columns, Supplier will be responsible, but CMU will provide support as reasonably requested by SI.

Table 1. Planning Roles and Responsibilities

Planning Roles and Responsibilities	Supplier	CMU
1. Educate Supplier on intended business capabilities, processes, technology, business unit, geographic scope, and any dependent initiatives being planned for or in-progress.		X
2. Refine/articulate more clearly the intended scope of the planned solution; refine Supplier's proposed Project Scope/Charter.	X	
3. Approve the Project Scope / Charter.		X
4. Inform Supplier of CMU's team resource assumptions.		X
5. Validate the Key Personnel and Design resources on the team as well as the timing of when resources are engaged. Collaborate to make necessary adjustments. Confirm overall development estimates, schedule, milestones, dependencies, and resource plan	X	
6. In collaboration with the CMU Program Manager, determine the appropriate resourcing mix (e.g., offshore vs. onshore mix; Supplier vs. CMU mix).	X	
7. Evaluate and approve the project resourcing mix and/or advise for modifications, assess impact due to changes and provide approval.		X
8. Provide information about any mandated or expected milestones, blackout periods (if applicable), and any other known schedule assumptions or constraints.		X
9. Refine the proposed Milestone-Based Project Plan for the entire program (through final rollout and support) and design a detailed Design Phase Project Plan.	X	
10. Approve the Design Phase Project Plan.		X
11. Provide information regarding the proposed implementation approach, methodologies, tools, accelerators, and other embedded best practices that will be applied. This would include specific and industry-relevant knowledge of the ERP product's usage within the Higher Education Industry business and technical context.	X	
12. In collaboration with CMU, determine applicability of Agile development approach for Build activities.	X	
13. Make available methodology, tools, and templates in a shared and accessible environment.	X	
14. Approve the methodologies, tools and templates proposed in the Build approach.		X
15. Provide information regarding project timing, dependencies, risks, and roll out phasing.		X
16. Facilitate discussions to provide experience-based and proactive advice regarding options and leading practices to help refine the current rollout strategy. Make updates to the Milestone-Based Plan and the detailed Design Plan as needed.	X	
17. Provide information on the current state of applications, data, processes, and challenges.		X
18. Incorporate business context into integration, data, and change management planning.	X	

Planning Roles and Responsibilities	Supplier	CMU
19. Validate CMU's applications inventory to determine which applications become redundant on account of implementing the new ERP and hence can be retired vs those that uniquely provide business functions and hence need to be retained.	X	
20. Finalize the proposed System and Data Integration Strategy and Plan based on the solution, deployment and rollout scope.	X	
21. Review, approve or reject, and refine the Integration Strategy and Plan.		X
22. Finalize the proposed Data Cleansing/Normalization/Migration Plan based on the solution and rollout scope; assign activities / responsibilities to the impacted CMU resources.	X	
23. Review, approve or reject, and refine the Data Cleanse/Migration Strategy and Plan.		X
24. Provide insight regarding areas of high change impact, stakeholder organization (business and IT), and current state pain/future state benefit expectations.		X
25. Participate in Organizational Change Management (OCM) planning for the full project that includes stakeholder engagement, communications, and training.	X	
26. Review, approve or reject, refine or assign to a 3rd Party the OCM Planning & Execution.		X
27. Finalize the proposed project management approach including toolset and processes to be used to maintain and share schedules, plans, design work products and documents, etc.	X	
28. Review, approve or reject, and refine the PM approach.		X
29. Prepare Core Team Training or Design Prototype environment required before the Design phase begins.	X	
30. Validate the total cost of the Design phase and refine estimates for the remaining phases.		X

3.0 Design Services

Design services produce solution and work stream specific deliverables to define and specify an optimal solution that delivers high value at a manageable cost and complexity.

CMU expects to have a 3-month planning period after the vendor kickoff (see Figure 5. HR and Finance Transformation Roadmap Summary in 1.1). CMU and the Supplier will use this time period to holistically plan the following activities, including but not limited to: overall solution architecture, sequencing, key dates, and complete the necessary preparatory tasks for the HR, Finance, Payroll, and Procurement implementation phases.

HR and Payroll module implementation is expected to begin after the 3-month global planning period, with Finance beginning 3 months afterwards. This is subject to change based on the global planning period.

3.1 Initial Core Team Training

The Supplier will deliver to the CMU Core Team (e.g., Program Leads, Business Process Leads, Functional Leads, and selected SMEs), as well as key IT delivery resources, solution training specific to the context of the Higher Education Industry. The expected outcome is that these CMU personnel will gain sufficient

understanding of the solution to fully participate in the Design process and to be able to evaluate the sufficiency of Design deliverables.

Table 2. Initial Core Team ERP Training Roles and Responsibilities

Initial Core Team ERP Training Roles and Responsibilities	Supplier	CMU
1. Prepare Core Team Training Plan and materials	X	
2. Conduct Core Team training	X	
3. Participate in Core Team training		X

3.2 Gap/Fit and Requirements Analysis

The Supplier will utilize a proven methodology and associated tools and any industry-relevant solutions, as available, to conduct the necessary analysis to determine the level of solution fit against CMU's business and technical requirements, leveraging the work already done by CMU as well as CMU's preferences. Furthermore, the Supplier will proactively apply industry, process, and solution expertise to minimize downstream re-work and to optimize the end-to-end business process and technical performance of the deployed solution.

Table 3. Gap/Fit & Requirements Analysis Roles and Responsibilities

Gap/Fit & Requirements Analysis Roles and Responsibilities	**Supplier**	**CMU**
1. Provide access to Business and IT Process Leads, Functional Leads, and subject matter experts (SMEs).		X
2. Provide gap/fit methodology, templates, a pre-configured solution, and tools. Provide timely knowledge transfer to CMU personnel before heavy activity usage.	X	
3. Provide experienced consultants, knowledgeable in the solution and industry best practices, to provide expert guidance while avoiding inefficiencies from "blank sheet of paper" design or sub-optimal configuration that requires downstream re-work.	X	
4. Prepare, organize and conduct gap/fit or business alignment and workstream specific workshops with required stakeholders.	X	
5. Participate in the workshops.		X
6. Proactively recommend industry best practices in business processes and solution configuration handling within our industry.	X	
7. Recommend business process changes and new business process flows and advise as to the relative change impact and value.	X	
8. As applicable, identify/recommend development needed or alternative 3rd party solutions to close gaps not easily handled by the chosen solution.	X	
9. Document gaps and recommendations identified during the Gap/Fit or Business Alignment workshops and review iteratively with CMU stakeholders to achieve consensus.	X	
10. Document key decisions (and the rationale) that are derived from the Gap/Fit Analysis or Business Alignment. Documentation needs to be	X	

Gap/Fit & Requirements Analysis Roles and Responsibilities	Supplier	CMU
concise and easily understood so it can effectively communicate to multiple audiences who may be impacted by the decision.		
11. Translate Gap/Fit Analysis or Business Alignment. results into refined and/or additional functional and technical requirements. Evolve and update to maintain requirements traceability.	X	
12. Review, refine, and approve or reject Gap/Fit Analysis or Business Alignment. deliverables and recommendations. This may include secondary research to confirm recommendations as needed.		X
13. Review, refine, and approve or reject key decisions.		X
14. Review, refine, and approve or reject updated functional and technical requirements.		X

3.3 Solution Design

Supplier will utilize a proven methodology and associated tools to deliver a design aligned with the scope, key strategic themes/drivers, and priorities. Furthermore, the Supplier will proactively apply industry, process, and solution expertise to minimize downstream re-work and to optimize the end-to-end business process and technical performance of the deployed solution.

Table 4. Solution Design Roles and Responsibilities

Solution Design Roles and Responsibilities	Supplier	CMU
A. Core Design		
1. Provide design methodology and design standards and provide timely education of the use of methods/tools to the Core Team.	X	
2. Provide industry, solution, and process-specific expertise and build best practices into the design to minimize downstream re-work or sub-optimal business process or technical performance.	X	
3. Based on Gap/Fit results/Business Alignment, finalize inventories of reports/dashboards, interfaces, data conversions, extensions/customizations, forms, workflows, and mobile applications that need to be designed, built and deployed.	X	
4. Based on Gap/Fit /Business Alignment results, clearly articulate, document, and demonstrate the baseline configuration using out-of-the-box capabilities.	X	
5. Identify and create Business Process Change and Business Process Re-Engineering design documentation to help communicate change impacts to the business stakeholders.	X	
6. Identify and create IT Operating Model Change and Transition design documentation to help communicate change impacts to the IT stakeholders.	X	
7. Throughout the design process, consider business context and impacts by working collaboratively with Business Process Leads, Functional Leads, and SMEs.	X	

Solution Design Roles and Responsibilities	Supplier	CMU
8. Throughout the design process, consider data, security, infrastructure, integration, and support context and impacts by working collaboratively with Business Process Leads, Functional Leads, and SMEs.	X	
9. Review, refine, and approve or reject development object inventories and baseline configuration design.		X
10. Develop functional specifications, as required, for approved development object inventories.	X	
11. Develop technical specifications, as required, for approved development object inventories.	X	
12. Develop / validate hardware & network specifications for installing the various environments, for approved performance levels, fault tolerance and disaster recovery capabilities.	X	
13. Develop/configure prototypes as required to support iterative/agile design where practical.	X	
14. Review, refine, and approve or reject design deliverables and specifications/documents.		X
15. Prepare configuration/build/test estimates aligned with the approved Design.	X	
16. Review, refine, and approve Configuration/Build/Test estimates.		X
B. Data Migration Specific Design		
17. Provide guidance on data governance best/leading practices that can be incorporated into CMU's business and IT data creation and maintenance processes.	X	
18. Provide target state data knowledge and expertise to help guide data cleanse/normalization/rationalization activities and guidance on archiving and accessibility of legacy data than will not be migrated.	X	
19. Recommend data cleanse/normalization/rationalization and migration tools that should be leveraged within the context of the chosen software to make migration more efficient.	X	
20. Develop Data Retention and Archiving Design that articulates legacy and ongoing data retention governance, policy, and process direction for the program.	X	
21. Review, refine, and approve or reject Data Migration Design deliverables.		X
C. Reporting/Analytics Specific Design		
22. Provide guidance on reporting capabilities in the end-to-end process design; leverage the ERP's embedded analytics capabilities to the fullest extent.	X	
23. Provide all existing related reports for potential use		X
24. Assess existing reports for content, usability and usage; propose options to rationalize the number of reports	X	
25. Collaborate, review and approve the proposals put forth by the Supplier		X
26. Create practical and relevant prototypes that can help communicate the shift in user thinking (at Executive, Operational Management, Super User, and Regular End User levels) about how information can be delivered to their devices with the future solution.	X	

Solution Design Roles and Responsibilities	Supplier	CMU
27. Provide proactive guidance to fully leverage mobile reporting capabilities where relevant.	X	
28. Provide proactive guidance to fully leverage drill-through reporting capabilities delivered out-of-the box with the chosen software solution.	X	
29. Provide proactive guidance to fully leverage exception and alert-based reporting capabilities, supported by workflow, delivered out-of-the box with the chosen software solution.	X	
30. Recommend any additional reporting and analytics tools that should be leveraged within the context of the chosen software.	X	
31. Develop Reporting/Analytics/Data Warehouse Architecture Design that depicts the enterprise-wide information management approach for the project.	X	
32. Review, refine, and approve or reject Reporting/Analytics Design deliverables.		X
D. Integration-Specific Design		
33. Provide proactive guidance and fully leverage available APIs, pre-built integration code, services-oriented architectures into integration capabilities.	X	
34. Provide expertise that can effectively collaborate with internal and third-party personnel supporting key known integration points.	X	
35. Provide technical expertise that can provide proactive guidance to identify potential integration bottlenecks that could cause performance issues as organization scales up. Include specific design recommendations to mitigate technical performance risk.	X	
36. Recommend any additional integration tools that should be leveraged within the context of the chosen software.	X	
37. Review, refine, and approve or reject integration Design deliverables.		X
E. Security-Specific Design		
38. Provide proactive guidance to help design the appropriate level of role-based security.	X	
39. Provide technical expertise to ensure that there are appropriate security controls inherent in the design to adhere to data segregation between the Client and its legal affiliates.	X	
40. Ensure CMU SOX (Sarbanes-Oxley) compliance requirements are met, and role-based access matrices are documented and approved.		X
41. Ensure there is a security plan inclusive of standards.	X	
42. Provide technical expertise and support to ensure CMU's authentication policies, white- and blacklisted sites, and 3rd party vendors and mobile access have the appropriate methods of access approved.	X	
43. Review, refine, and approve or reject Security Design deliverables.		X

3.4 Test Planning and Design

The Supplier will utilize a proven methodology and associated tools and accelerators to deliver Test Planning and Design services aligned with the end-to-end solution scope. Furthermore, the Supplier will

proactively apply industry, process, and solution expertise to minimize downstream re-work and to optimize the end-to-end business process and technical performance/capacity of the deployed solution.

Table 5. Test Planning and Design Roles and Responsibilities

Testing Planning and Design Roles and Responsibilities	Supplier	CMU
1. Develop the Testing Strategy, Test Plan, and Test Scripts that, at a minimum, covers Unit Test, Function Test, System Integration Test, Mock Migration Test, Performance/Load Test, Disaster Recovery, and User Acceptance Test activities within the end-to-end solution scope.	X	
2. Work with the Test Lead and SMEs to plan and design a true end-to-end test environment. End-to-end includes testing from/to key third party platforms.	X	
3. Provide a Testing Lead and IT SMEs to work collaboratively with the Supplier.		X
4. Review and approve the Test Scripts to be used in the testing process; provide any existing scripts that can be utilized as is or with any modifications.		X
5. Recommend any preconfigured test accelerators or third-party solutions that CMU can leverage for operation & maintenance of ERP solution.	X	
6. Approve or reject Supplier recommendation and initiate procurement and implementation related decisions		X
7. Recommend and assist with design and development of an automated testing framework. Assist with the training to testers on this framework and the oversight of the execution of the framework.	X	
8. Work with the Testing Lead to develop a Testing Work Plan and Defect Management Plan that provides the specific timing, dependencies, resource requirements, objectives, and evaluation for Test Execution and Issue Monitoring.	X	
9. Review, refine, and approve or reject Test Planning and Design deliverables.		X

3.5 Value Realization

Value Realization is a work stream that begins during Planning & Design and continues through final deployment, initial support, and ongoing stabilization. This section deals with the up-front Value Realization activities for Design as well as any incremental Value Realization activities associated with additional rollouts.

The Supplier will utilize a proven methodology and associated tools to deliver Value Realization services aligned with the scope, key strategic themes/drivers, and priorities. Furthermore, the Supplier will proactively apply industry, process, and solution expertise to optimize the engagement and alignment of CMU's business and IT stakeholders to the expected benefits for the end-to-end solution being designed and eventually deployed.

It is expected that benefits tracking, reporting, and the creation of feedback channels will begin before the go-live of HR, Payroll, Finance, and Procurement Go-Lives.

Table 6. Value Realization Roles and Responsibilities

Value Realization Roles and Responsibilities	SI	CMU
1. Provide Value Realization methodology and tools and provide timely education of the use of the methods/tools to the Core Team.	X	
2. Proactively provide industry, solution, and process-specific expertise that will build best practices into the Value Realization Design and optimize business process performance and solution adoption.	X	
3. Work with Functional/Technical Leads, Business Process CMUs, and SMEs, to develop initial Value Realization Design that links articulated benefit statements to the required solution (e.g., software, process, role, key decision, etc.) component(s) that will enable the benefits.	X	
4. Review and approve or else request to modify the plan in order to align with the business case.		X
5. Provide initial insights into potential quantified value opportunities from experience with similar clients and/or benchmark data.	X	
6. Provide value opportunities and associated priorities to be included and tracked through to project completion. Provide all existing documentation related to Value Realization which can be leveraged by the Supplier.		X
7. Provide current state baseline operating metrics.		X
8. Business Value Drivers: For each end-to-end process provide future state governance, SLAs, and measurable Objectives and Key Results (OKRs) and/or KPIs.	X	
9. Throughout the Design process, consider business context and impacts by working collaboratively with Business Process Leads, Functional Leads, and SMEs in all Value Realization Design activities.	X	
10. Review, refine, and approve or reject the Value Realization Design deliverables.		X