Technical Architecture Assessment

Template

  
Version 1.5, August 2023

Using This Template

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3. Replace [bracketed text] in the header area at the top of page i (Contents page) with the same project and agency information as on the cover page.

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1. Update the table of contents by right-clicking and selecting “Update Field,” then “Update entire table.”

Texas Project Delivery Framework

Technical Architecture Assessment

[Agency/Organization Name]

[Project Name]

|  |  |
| --- | --- |
| Version: [Version Number] | Revision Date: [MM/DD/YY] |

*Approval of the Technical Architecture Assessment indicates an understanding of the purpose and content described in this deliverable. According to Texas Government Code, Chapter 2054.307, a state agency’s executive director, or the executive director’s designee, must approve.*

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| --- | --- | --- |
| **Agency Head or Designee** | | |
| [Name] | [Email] | [Telephone] |
| Signature | | Date [mm/dd/yy] |

Agencies may add additional signatories depending on internal project management governance.

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| Signature | | Date [mm/dd/yy] |

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| Signature | | Date mm/dd/yy |

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# Section 1. Background

This Technical Architecture Assessment for major information resources projects may be required by QAT as authorized in Senate Bill 65, 86th Legislature, and Texas Government Code, Section 2054.303.

The overall intent of this document is to describe the conceptual design of the proposed system in the initial planning stages.

For Section 1, describe the problem situation and the proposed solution that will address the problem situation.

**Helpful Hint:** Most of the required architectural As-Is and To-Be information would be transferable from conducting a due diligence analysis following the guidelines outlined in the DIR Legacy Modernization Strategy, consisting of the Legacy Modernization Guide, the Application Development Decision Framework (ADDF), and Application Portfolio Management (APM).

| **Section 1: Background Information** |
| --- |
|  |

# Section 2. Technology Profile

The Technology Profile Section has been designed to capture only the most essential information required for the Initial Project Approval. Select all that apply by indicating an “X” in the spaces below.

|  |  |
| --- | --- |
| Description  *(Provide a brief description of the solution. If available, provide a high-level context diagram for the components relevant to the current system).* | |
| Project Type | \_\_ New System \_\_ Upgrade and/or Augmented System |
| System Required by Statute | \_\_ No \_\_ Yes   * Which local laws/directives mandate the creation of a solution?   => |
| Mission Criticality | \_\_ No \_\_ Yes   * Is the system part of a mission essential function?   => |
| Solution Scope | \_\_\_ Internal Use  *(Solution is for internal use within the agency)*  \_\_\_ Government Wide  *(Solution that will be shared or is common amongst governmental entities)*  \_\_\_ Business Partners  *(Solution is used by select vendors, providers, or partners to the agency)*  \_\_\_ Public  *(Solution is generally available to public constituents)* |
| Delivery of Functionality | \_\_ Functionality delivered over time  \_\_ Functionality delivered all at once |
| Estimated Number of Users | Total: \_\_\_\_\_\_\_\_\_\_  By Audience:  Citizen: \_\_\_\_\_\_ Employee: \_\_\_\_\_ Business: \_\_\_\_\_\_ Other:\_\_\_\_\_\_ |
| Estimated Annual Customer Growth Rate | Percentage: \_\_\_\_\_\_\_\_\_  By Audience:  Citizen: \_\_\_\_\_\_ Employee: \_\_\_\_\_ Business: \_\_\_\_\_\_ Other: \_\_\_\_\_ |
| Estimated Data/Storage | \_\_ <1 GB \_\_1- 99 GB \_\_100-999 GB \_\_1-999 TB \_\_ >1 PB |
| Estimated Annual Customer Growth Rate | \_\_ <1 GB \_\_1- 99 GB \_\_100-999 GB \_\_1-999 TB \_\_ >1 PB |
| External Interfaces | \_\_ No \_\_ Yes  Estimated number of interfaces: \_\_\_\_\_  Please list any known interfaces that will be modified or developed:  => |

# Section 3. Availability & Reliability

Instructions: Identify and discuss the key availability and reliability considerations that will influence the technical design.

|  |  |
| --- | --- |
| Production Hours of Operation | Select all that apply.  \_\_ Citizen  \_\_ Normal Business Hours (e.g., 8:00 am to 5:00 pm)  \_\_ Extended Business Hours (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_ 24 X 7  \_\_ Employee  \_\_ Normal Business Hours (e.g., 8:00 am to 5:00 pm)  \_\_ Extended Business Hours (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_ 24 X 7  \_\_ Government/Business Partner(s)  \_\_ Normal Business Hours (e.g., 8:00 am to 5:00 pm)  \_\_ Extended Business Hours (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_ 24 X 7 |
| Production Availability | Uptime Unplanned Downtime/month  \_\_ 99 (2 Nines) 7h 30m  \_\_ 99.5 4h 45m  \_\_ 99.9 (3 Nines) 1h 45m  \_\_ 99.99 (4 Nines) 5m  \_\_ 99.999 (5 Nines) 30s  \_\_ Other (specify):  Scheduled Downtime:  \_\_ Specify Amount: \_\_\_\_\_\_\_\_ |
| Performance | Describe any peaks or spikes in the usage of the service.  => |
| Risk | What are the repercussions if the system fails?  => |
| Application Backup Requirements | Full Back-up: \_\_ Daily \_\_ Weekly  Incremental Back-up: \_\_ Hourly \_\_ Daily \_\_ Weekly |

# Section 4. Conceptual System Design

Provide a diagram (or diagrams) of the existing system (if applicable) and the proposed system with corresponding narrative that depicts a high-level business and technology view of the design for the system or new components within the system (e.g., business requirements created using the [ADDF](https://dir1.sharepoint.com/sites/addf/Pages/Home.aspx) guidelines and various data, application, and technology architectural artifacts that would be developed during a due diligence analysis using the [*Legacy Modernization Guide*](https://dir.texas.gov/resource-library-item/legacy-modernization-guide) and [*Artifact Checklist*](https://dir.texas.gov/resource-library-item/legacy-modernization-artifact-checklist)).

=>

# Section 5. Technical Architecture

Instructions: Identify and describe the **relevant** technical architecture of the current system. If available, include high-level diagrams, lists, and/or narratives that describe major subsystems and components.

|  |  |
| --- | --- |
| Hosting | \_\_ State Data Center (DCS)  \_\_ Software as a Service (SaaS)  \_\_ Government Cloud (AWS, Microsoft Azure, IBM)  \_\_ Other, Please Specify: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_ Unknown |
| DCS Exemption | \_\_ No \_\_ Yes \_\_ Unknown |
| Development Approach | \_\_ Commercial Off the Shelf (COTS)  \_\_ Open Source  \_\_ Custom  \_\_ Unknown  (Please provide a list of any known commercial or open-source software) => |
| Type of Processing | \_\_ Batch and/or online  \_\_ Transaction processing and/or analytical reporting |
| Application Approach | \_\_ Microservices  \_\_ SOA  \_\_ N Tier  \_\_ Monolithic  \_\_ Other (specify):  \_\_ Unknown |
| Development Platform | \_\_ J2EE \_\_ .NET \_\_ Other (specify):  \_\_\_\_\_\_\_Version  \_\_ Unknown |
| Application Communication Technologies | Service Interface:  \_\_ Web Services (HTTP, XML, SOAP, WSDL, UDDI)  \_\_ Public Facing  \_\_ Internal Facing  \_\_ Messaging / Message Queuing  \_\_ Unknown \_\_ Not Applicable |
| System Integration Technologies | \_\_ XML \_\_ Web Services \_\_ Messaging  \_\_ IIOP \_\_ Adaptors \_\_ Secure FTP  \_\_ Proprietary API via \_\_\_\_\_\_\_\_\_\_  \_\_ Other (specify):  \_\_ Unknown \_\_ Not Applicable |
| Operating System | \_\_ Windows Server  \_\_ Linux (Specify: \_\_\_\_\_\_\_\_\_\_\_\_\_)  \_\_ Unix \_\_ OS  \_\_ Other |
| Database Technology | \_\_DB2 \_\_ MySQL \_\_Oracle \_\_SQL Server  \_\_Other (Please specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_)  \_\_ Unknown |
| Data Reporting Solution(s) | List:  =>  \_\_ Unknown \_\_ Not Applicable |

\*\* Disclaimer: Any technologies listed above have been provided solely for convenience. The information provided is not intended to be exhaustive, nor does it indicate product endorsement

# Section 6. Security

Instructions: Identify and discuss the key security and privacy considerations that will influence the technical design.

|  |  |
| --- | --- |
| User Authentication | \_\_ Within the Solution Being Developed  \_\_ Existing Identity & Access Management Solution (IAM)  \_\_ New Identity & Access Management Solution (IAM) |
| User Access Requirements | \_\_ Internet \_\_ Extranet |
| Compliance / Data | \_\_ Personally Identifiable Information (PII)  \_\_ Personal Health Information (HIPAA)  \_\_ Criminal Justice Information Services (CJIS)  \_\_ Payment Card Industry (PCI)  \_\_ Federal Tax Information (FTI)  \_\_ Other: (Describe) =>  \_\_ Not Applicable |
| Secure Storage | Data Encryption  \_\_ Column \_\_ Row \_\_ Table  \_\_ Database using AES encryption  \_\_ Other (Explain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) |
| Secure Transport | \_\_ SSL/TLS  \_\_ *Other Scenario where data is persisted on in transit (specify)*:  => |
| Data Distribution | Will the system distribute information outside of the agency?  \_\_ Yes \_\_ No  If Yes, to what entities?:  => |
| Risks | What are the business risks of this system from a security and privacy perspective?  => |

# Section 7. Preliminary System Design Description

Expand upon the high-level diagram (or diagrams) in Section 4. Include corresponding narrative that depicts an accurate and detailed description of the preliminary design for the system or new components within the system.

=>

# Appendix A: Definitions

Instructions: Provide clear and concise definitions for terms used in this document that may be unfamiliar to readers of the document. Terms are to be listed in alphabetical order.

| **Term** | **Acronym** | **Definition** |
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# Appendix B: Record of Changes

*Instructions: Provide information on how the development and distribution of the Technical Architecture will be controlled and tracked. Use the table below to provide the version number, the date of the version, the author/owner of the version, and a brief description of the reason for creating the revised version.*

| **Version Number** | **Date** | **Author/Owner** | **Description of Change** |
| --- | --- | --- | --- |
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