

COUNTY OF VENTURA

CONTRACT #9230

VCIJIS INTEGRATION PLATFORM SOLUTION INCLUDING PORTAL AND DATA WAREHOUSE

C O N T R A C T

This Contract is entered into this 20th day of December, 2023, by, and between, the County of Ventura, a political subdivision of the State of California, hereinafter called "County" and Quartech USA Ltd., dba Quartech Justice Solutions, hereinafter called "Contractor."

W I T N E S S E T H

WHEREAS, County issued the VCIJIS Integration Platform Solution including Portal and Data Warehouse Request for Proposal #6129 (hereinafter referred to as 'RFP') to determine the most qualified contractor(s) for such services for County; and

WHEREAS, Contractor submitted a proposal dated May 8, 2023, in response to the RFP (hereinafter referred to as "Contractor's Proposal"), to provide services to County;

WHEREAS, County determined, through competitive solicitation and careful review of submitted proposals, that Contractor's Proposal best meets the need of County for VCIJIS Integration Platform Solution including Portal and Data Warehouse (as described in RFP) and that it is necessary and desirable that Contractor be engaged by County for the purpose of providing VCIJIS Integration Platform Solution including Portal and Data Warehouse and related services hereinafter described; and

WHEREAS, County and Contractor are willing to enter into a VCIJIS Integration Platform Solution including Portal and Data Warehouse Contract in accordance with the RFP and Contractor's response thereto, which by this reference are incorporated herein, though not attached, and the terms and conditions contained herein;

WHEREAS, it is necessary and desirable that Contractor be engaged by County for the purpose of performing Contract Staffing for VCIJIS Project hereinafter described.

NOW, THEREFORE, IT IS HEREBY AGREED by the parties as follows:

1. **SERVICES TO BE PERFORMED BY CONTRACTOR**

In consideration of the payments hereinafter set forth, Contractor will perform services for County in accordance with the terms, conditions and specifications set forth herein and Exhibit A, attached hereto.

2. **PAYMENTS**

In consideration of the services rendered in accordance with all terms, conditions and specifications set forth herein and in Exhibit A, County will make payment to Contractor in the manner specified in Exhibit A. Services shall be invoiced according to Exhibit A.

Payment for services rendered is not to exceed \$1,046,000.00.

3. **INDEPENDENT CONTRACTOR**

No relationship of employer and employee is created by this Contract, it being understood that Contractor is an independent contractor, and neither Contractor nor any of the persons performing services for Contractor pursuant to this Contract, whether said person be member, partner, employee, subcontractor, or otherwise, will have any claim under this Contract or otherwise against County for sick leave, vacation pay, retirement benefits, social security, workers' compensation, disability, unemployment insurance benefits, or employee benefits of any kind.

It is further understood and agreed by the parties hereto that, except as provided in this Contract, Contractor in the performance of its obligation hereunder is subject to the control or direction of County merely as to the result to be accomplished by the services hereunder agreed to be rendered and performed and not as to the means and methods for accomplishing the results.

If, in the performance of this Contract, any third persons are employed by Contractor, such persons will be entirely and exclusively under direction, supervision and control of Contractor. All terms of employment, including hours, wages, working conditions, discipline, hiring and discharging or any other terms of employment or requirements of law, will be determined by Contractor, and County will have no right or authority over such persons or the terms of such employment, except as provided in this Contract.

The Contractor will comply with all of the provisions of the Worker's Compensation Insurance and Safety Acts of the State of California, the applicable provisions of Division 4 and 5 of the California Labor Code and all amendments, thereto; and all similar State and Federal acts or laws applicable; and will indemnify and hold harmless the County from and against all claims, demands, payments, suits, actions, proceedings and judgments of every nature and description, including attorney's fees and costs, presented, brought or recovered against the County, for or on account of any liability under any of said Acts which may be incurred by reasons of any work to be performed under this Contract.

4. **NON-ASSIGNABILITY**

Contractor will not assign this Contract or any portion thereof, to a third party without the prior written consent of County, and any attempted assignment without such prior written consent will be null and void and will be cause, at County's sole and absolute discretion, for immediate termination of this Contract.

5. **TERM**

This Contract will be in effect from December 20, 2023 through December 19, 2026, subject to all the terms and conditions set forth herein.

Time is of the essence in the performance of this contract.

Continuation of the Contract is subject to the appropriation of funds for such purpose by the County's Board of Supervisors. If funds to effect such continued payment are not appropriated, County may terminate this project as thereby affected and Contractor will relieve County of any further obligation therefor.

6. TERMINATION

The Chief Procurement Officer may terminate this Contract at any time for any reason by providing 10 days' written notice to Contractor. In the event of termination under this paragraph, Contractor will be paid for all work provided to the date of termination, as long as such work meets the terms and conditions of this Contract. On completion or termination of this Contract, County will be entitled to immediate possession of and Contractor will furnish on request, all computations, plans, correspondence and other pertinent data gathered or computed by Contractor for this particular Contract prior to any termination. Contractor may retain copies of said original documents for Contractor's files. Contractor hereby expressly waives any and all claims for damages or compensation arising under this Contract except as set forth in this paragraph in the event of such termination.

This right of termination belonging to the County of Ventura may be exercised without prejudice to any other remedy which it may be entitled at law or under this Contract.

7. DEFAULT

If Contractor defaults in the performance of any term or condition of this Contract, Contractor must cure that default by a satisfactory performance within 10 days after service upon Contractor of written notice of the default. If Contractor fails to cure the default within that time, then County may terminate this Contract without further notice.

The foregoing requirement for written notice and opportunity to cure does not apply with respect to paragraph 4 above.

8. INDEMNIFICATION, HOLD HARMLESS AND WAIVER OF SUBROGATION

All activities and/or work covered by this Contract will be at the risk of Contractor alone. Contractor agrees to defend, indemnify, and save harmless the County, including all of its boards, agencies, departments, officers, employees, agents and volunteers, against any and all claims, lawsuits, whether against Contractor, County or others, judgments, debts, demands and liability, including without limitation, those arising from injuries or death of persons and/or for damages to property, arising directly or indirectly out of the obligations herein described or undertaken or out of operations conducted or subsidized in whole or in part by Contractor, save and except claims or litigation arising through the sole negligence or wrongdoing and/or sole willful misconduct of County. Contractor agrees to waive all rights of subrogation against County for losses arising directly or indirectly from the activities and/or work covered by this Contract.

9. INSURANCE PROVISIONS

- A) Contractor, at its sole cost and expense, will obtain and maintain in full force during the term of this Contract the following types of insurance:
- 1) General Liability "occurrence" coverage in the minimum amount of \$1,000,000 combined single limit (CSL) bodily injury & property damage each occurrence and \$2,000,000 aggregate, including personal injury, broad form property damage, products/completed operations, broad form blanket contractual and \$50,000 fire legal liability.
 - 2) Workers' Compensation coverage, in full compliance with California statutory requirements, for all employees of Contractor and Employer's Liability in the minimum amount of \$1,000,000.
 - 3) Professional Liability coverage in the minimum amount of \$1,000,000 each occurrence and \$2,000,000 aggregate.
 - 4) Cyber Liability (Security & Privacy) coverage in the minimum amount of \$1,000,000 each occurrence and \$2,000,000 aggregate.
- B) All insurance required will be primary coverage as respects County and any insurance or self-insurance maintained by County will be excess of Contractor's insurance coverage and will not contribute to it.
- C) County is to be notified immediately if any aggregate insurance limit is exceeded. Additional coverage must be purchased to meet requirements.
- D) The County, and any applicable Special Districts are to be named as Additional Insured as respects to work done by Contractor under the terms of this Contract for General Liability Insurance.
- E) Contractor agrees to waive all rights of subrogation against the County, Its Boards, Agencies, Departments, any applicable Special Districts, Officers, Employees, Agents and Volunteers for losses arising from work performed by Contractor under the terms of this Contract.
- F) Policies will not be canceled, non-renewed or reduced in scope of coverage until after sixty (60) days written notice has been given to the County of Ventura, Risk Management Division.
- G) Contractor agrees to provide County with the following insurance documents on or before the effective date of this Contract:
1. Certificates of Insurance for all required coverage.
 2. Additional Insured endorsement for General Liability Insurance.
 3. Waiver of Subrogation for Workers' Compensation insurance.

Failure to provide these documents will be grounds for immediate termination or suspension of this contract.

10. **NON-DISCRIMINATION**

A) General.

No person will on the grounds of race, color, national origin, religious affiliation or non-affiliation, sex, age, handicap, disability, or political affiliation, be excluded from participation in, be denied the benefits, or be subjected to discrimination under this Contract.

B) Employment.

Contractor will insure equal employment opportunity based on objective standards of recruitment, selection, promotion, classification, compensation, performance evaluations, and management relations, for all employees under this Contract. Contractor's personnel policies will be made available to County upon request.

11. **SUBSTITUTION**

If particular people are identified in Exhibit A as working under this Contract, the Contractor will not assign others to work in their place without written permission from the Chief Procurement Officer. Any substitution will be with a person of commensurate experience and knowledge.

12. **INVESTIGATION AND RESEARCH**

Contractor by investigation and research has acquired reasonable knowledge of all conditions affecting the work to be done and labor and material needed, and the execution of this Contract is to be based upon such investigation and research, and not upon any representation made by the County or any of its officers, agents or employees, except as provided herein.

13. **CONTRACT MONITORING**

The County will have the right to review the work being performed by the Contractor under this Contract at any time during Contractor's usual working hours. Review, checking, approval or other action by the County will not relieve Contractor of Contractor's responsibility for the thoroughness of the services to be provided hereunder. This Contract will be administered by Mike Kerr, Deputy Chief Information Officer, Criminal Justice Services, Information Technology Services, or his authorized representative.

14. **ADDENDA**

County may from time to time require changes in the scope of the services required hereunder. Such changes, including any increase or decrease in the amount of Contractor's compensation which are mutually agreed upon by and between County and Contractor will be effective when incorporated in written amendments to this Contract.

15. **CONFLICT OF INTEREST**

Contractor covenants that Contractor presently has no interest, including, but not limited to, other projects or independent contracts, and will not acquire any such interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Contract. Contractor further covenants that in the performance of this Contract no person having such interest will be employed or retained by Contractor under this Contract.

16. **CONFIDENTIALITY**

Any reports, information, data, statistics, forms, procedures, systems, studies and any other communication or form of knowledge given to or prepared or assembled by Contractor under this Contract which County requests in writing to be kept confidential, will not be made available to any individual or organization by Contractor without the prior written approval of the County except as authorized by law.

17. **NOTICES**

All notices required under this Contract will be made in writing and addressed or delivered as follows:

TO COUNTY: County of Ventura
General Services Agency
Procurement Services
800 South Victoria Avenue, L#1080
Ventura, CA 93009

TO CONTRACTOR: Quartech USA Ltd., dba Quartech Justice Solutions
5608 17th Avenue NW, Suite 970
Seattle, WA 98107

Either party may, by giving written notice in accordance with this paragraph, change the names or addresses of the persons or departments designated for receipt of future notices. When addressed in accordance with this paragraph and deposited in the United States mail, postage prepaid, notices will be deemed given on the third day following such deposit in the United States mail. In all other instances, notices will be deemed given at the time of actual delivery.

18. **MERGER CLAUSE**

This Contract supersedes any and all other contracts, either oral or written, between Contractor and the County, with respect to the subject of this Contract. This Contract contains all of the covenants and contracts between the parties with respect to the services required hereunder. Contractor acknowledges that no representations, inducements, promises or contracts have been made by or on behalf of County except those covenants and contracts embodied in this Contract. No contract, statement, or promise not contained in this Contract will be valid or binding.

19. **ORDER OF PRECEDENCE**

This Contract supersedes all previous agreements, understandings and representations of any nature whatsoever, whether oral or written, and constitutes the

entire understanding between the parties hereto.

This Contract may not be altered, amended, or modified except by written instrument signed by the duly authorized representative of both parties. In the event of an inconsistency in this Contract, the inconsistency shall be resolved in the following order:

1. This Contract;
2. County of Ventura RFP #6129
3. Contractor's proposal dated May 8, 2023

20. **GOVERNING LAW**

The validity of this Contract and any of its terms or provisions, as well as the rights and duties of the parties under this Contract, will be construed pursuant to and in accordance with the laws of the State of California.

21. **SEVERABILITY OF CONTRACT**

If any term of this Contract is held by a court of competent jurisdiction to be void or unenforceable, the remainder of the Contract terms will remain in full force and effect and will not be affected.

22. **CUMULATIVE REMEDIES**

The exercise or failure to exercise of legal rights and remedies by the County in the event of any default or breach hereunder will not constitute a waiver or forfeiture of any other rights and remedies, and will be without prejudice to the enforcement of any other right or remedy available by law or authorized by this Contract.

23. **COMPLIANCE WITH LAWS**

Each party to this Contract will comply with all applicable laws.

24. **CONSTRUCTION OF COVENANTS AND CONDITIONS**

Each term and each provision of this Contract will be construed to be both a covenant and a condition.

25. **ACCESS TO AND USE OF COUNTY TECHNOLOGY**

As part of this Contract, set forth in Exhibit B, Contractor shall agree with and abide by the provisions set forth in the Ventura County Non-Employee Information Technology Usage Policy, which by this reference is made a part hereof. Any employee, subcontractor, or agent of the Contractor who will access (which shall include, but is not limited to, the use, maintenance, repair or installation of) County information technology in the course of his, or her, work for County is required to sign the Ventura County Non-Employee Information Technology Usage Policy before accessing, using, maintaining, repairing or installing any County information technology system or component. Information technology shall include, but is not limited to, the network, Internet access, electronic mail, voice mail, voice message

systems, facsimile devices, or other electronic or telecommunication systems used by County.

26. **CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY FUNDS ATTESTATION**

As part of this Contract, set forth in Exhibit C, Contractor shall agree with and abide by the provisions set forth in the Coronavirus State and Local Fiscal Recovery Funds attestation.

27. **FEDERAL TERMS AND CONDITIONS**

As part of this Contract, set forth in Exhibit D, Contractor shall agree with and abide by the provisions set forth in the Federal Terms and Conditions.

28. **NON-EXCLUSIVITY**

The County reserves the right to contract with providers of similar services and/or equipment other than the Contractor when it is reasonably determined to be in the best interest of the County.

IN WITNESS WHEREOF the parties hereto have executed this Contract.

COUNTY OF VENTURA

Quartech Justice Solutions

Authorized Signature

Authorized Signature

Printed Name

Printed Name

Title

Title

Date

Date

Tax Identification Number

Secretary of State Entity Number

Quartech Justice Solutions

Authorized Signature

Printed Name

Title

Date

* If a corporation, this Contract must be signed by two specific corporate officers.

The first signature must be from either (1) the Chief Executive Officer, (2) the Chairman of the Board, (3) the President, or (4) a Vice President.

The second signature must be from either (a) the Secretary, (b) an Assistant Secretary, (c) the Chief Financial Officer(or Treasurer), or (d) and Assistant Treasurer.

In the alternative, a single corporate signature is acceptable when accompanied by a corporate resolution demonstrating the legal authority of the signatory to bind the company for this Contract.



REQUEST FOR PROPOSAL #6129

VCIJIS Integration Platform Solution
including Portal and Data Warehouse

Question Set 2: Section 3.2:
Implementation Strategy Requirements

Quartech Justice Solutions

UPDATED: November 27, 2023



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Question Set 2: Section 3.2: Implementation Strategy Requirements

Question Set 2 Instructions

For the Project Deliverables portion of Section 3.2, respond in an MS Word file and price each deliverable accordingly.

Rate Card and Alternative Approaches

2.0.1 *Provide a rate card for anticipated support resources.*

Quartech's rate card is included in the Price Proposal document uploaded to the Compensation Licenses section on the Bonfire submission portal.

2.0.2 *Provide any recommended alternative approaches to the support model, based on industry best practices.*

The unique nature of each client's operational environment and a department's internal IT support capacity and competency adds to the complexity of long-term maintenance and support. Many of the maintenance requirements are not simply "break/fix" as you find in the traditional software maintenance and support model. Our experience suggests that much of the maintenance involves addressing changes to the feeder systems and ETL processes over time and supporting the agency with needed operational enhancements. Furthermore, many agencies find the core data warehouse provides a valuable platform to develop additional integration and analytic capabilities for the Department.

In Quartech's experience working with other Justice and Public Safety clients, the most effective way to structure maintenance and support services agreements is to combine preventive maintenance, operations support (data sources), and system enhancement services into an integrated resource pool. Typically, we structure agreements to provide a pool of hours that are allocated by our clients to their highest priority activities.

This approach has several benefits. It provides a stable pool of qualified technical resources that are always available to the County for the highest priority activities. By allocating a consistent pool of hours, Quartech verifies that our staff is dedicated to the needs of the County and that our staff develops deep experience with the County configuration. Finally, this arrangement provides a consistent, predictable monthly expense which enables accurate budgeting and resource planning for our clients.

Project Deliverables

D1 – Project Management Plan

2.1.1 *State how D1, the Project Management Plan, will be completed.*

At the outset of this project, the Quartech Project Manager (PM) will work collaboratively with County and other stakeholders to complete a Project Management Plan that will be used by the Project Manager (PM) throughout the project to ensure successful delivery of the project. The core of that plan will include the activities for the project, the resources required to perform

those activities, and the schedule for completing them, including critical dependencies. To support the implementation of the project, the plan will describe the objectives, scope, approach, and schedule and will include:

- Project Team structure
- Project Governance for risk, issue, and escalation management
- Communication management
- Issue & Risk management
- Change Control management processes
- Scope management
- Schedule management
- Time & Cost management
- Quality management
- Resource management
- Stakeholder management
- Deliverable management

Along with the plan, a responsibility assignment matrix will be developed to ensure clarity on the involvement of Quartech and BPD team members and indicate when each is Responsible, Accountable, Consulted, and/or Informed (RACI) regarding activities or deliverables.

Project Management Tools and Methods

Strong project management is pivotal in delivering successful projects. The Quartech project management methodology has been refined over time to embrace the processes and techniques that have consistently resulted in Quartech's on-time, within-budget engagements. Our methodology includes the following components.

Project Management Tools

Quartech will create a secure project team website (a Project Team Site) to support the essential communication between all project participants. The Project Team Site will be accessible from the Internet (i.e., Microsoft Teams or SharePoint), and secure access will be provided to all team members. This Project Team Site provides a mechanism for sharing project document libraries, project collateral capturing the latest progress, meeting records, project deliverables, and the logs to support risk and issue management, actions, decisions, and change control.

Communication Management

The PM will ensure that the communication is clear, concise, and effective at all stages of the project. Communication planning identifies who needs what information, when they will need it, and how it will be given to them. Communication will be managed and delivered through regular status reporting, scheduled project meetings, and ad-hoc meetings as required.

Any risks, issues, or escalation points will be communicated immediately to manage them efficiently without delaying until pre-scheduled meetings. Ad-hoc meetings will be scheduled to support any such situations that may arise.

Status Reporting

Regular status progress reports will be used to track progress against the plan and to provide ongoing estimates of progress remaining for each deliverable and the projected schedule. The progress gathered from the team in relation to their assigned work will be reported using a prescribed status report. The PM will produce a detailed status report on a regular basis and distributed via email for review prior to scheduled project status meetings.

The status report will include the following:

- Overall project status and health
- Activities completed for the past period
- Activities planned for the upcoming period
- Leadership decisions required
- Risks, Actions, Issues, Decisions (RAID)
- Progress report of deliverables
- Budget spend and forecast

Meetings

During the initial set up of the project, the PM will plan and schedule internal and external meetings. The following is a proposed list of meetings that will be scheduled for the life of the project:

Type	Purpose
Project Kick Off	To announce commencement of the project and introduce all team members, project sponsors, and stakeholders
Project Status Meeting	To discuss project progress, activities, change requests, cost variances, issues, and risks
Scrum Meeting	To review project activities and address any blockers
Demo	To provide overview of the solution for staff and stakeholders To provide overview during testing
Workshops	To facilitate data cleansing and data integration activities To facilitate requirements gathering on detailed reporting requirements To discuss, gather, and document workflow business requirements
Lessons Learned	To facilitate discussions and document lessons learned through the delivery of the project
Project Close Down	To announce project completion and communicate project achievements

Issue and Risk Management

During the project, issues can arise from a risk that could not be resolved and may impede the project's progress. To mitigate this, the PM will:

- Identify and communicate issues and risks early including the potential impact, likelihood, and potential mitigation strategies.
- Determine impacts to the scope, schedule, or quality of the project.
- Establish a framework in which the project team will identify risks and develop strategies to mitigate or avoid those risks for the project.
- Implement issue resolution to escalate and resolve specific issues and reduce risks to project goals.
- Manage issues and risks efficiently and effectively through the change management process.

The PM will implement a formal process for the identification, documentation, and management of issues and risks. That will start with establishing issue and risk management procedures at the outset of the project so that everyone involved in the project is aware of how to log an issue and risk. All issues and risks will be assigned to a project team member who is responsible for following through to ensure that those identified are addressed and resolved promptly before it has an impact on the progress of the project. All issue and risk resolutions are documented.

Escalation Management

Issues and risks that are not resolved within the project team will be escalated to the PM for tracking and managing through an escalation path.

Change Control Management

Change is inevitable on any project. As one of the initial activities for the project, the PM will establish change control procedures jointly so that everyone involved in the project is aware of how to request a change. There are several types of changes that may be requested and considered for the project:

- **Scheduling Changes:** Changes that impact the approved project schedule.
- **Budget Changes:** Changes that impact the approved project budget.
- **Scope Changes:** Changes that are necessary and impact the project's scope, which may be the result of adding, removing, or changing requirements.

The PM will ensure that any approved changes are communicated to the project stakeholders. Additionally, as changes are approved, the PM will also ensure that the changes are captured in the project documentation where necessary.

Change Control Process

The change control process will include establishing change classifications, priorities, and effective date(s); reviewing and authorizing or rejecting change requests (CR); planning for the cost of assessing the CRs; assessing CRs for impacts and risks; determining whether CRs are "in scope" or "out of scope"; obtaining financial approval for approved CRs; and scheduling the implementation of approved changes. At a high level, our suggested change control process is:

- **Identify Change:** Capture the change in the action log of the RAID. If the action results in an agreement that no change is required, the action item can be closed.
- **Analyze Change:** Review potential change to determine its impact on the project in terms of scope, schedule, budget, quality, and resources.
- **Apply Change Process:** Small changes that do not materially impact the existing project budget and/or schedule may not be considered a CR item and will be identified on the regular project status report. More significant changes will require the preparation of a CR, entry into the CR log, and approval.
- **Prepare CR:** Prepare a CR form.
- **Submit CR for Approval:** Submit the CR for approval/sign-off.
- **Enact Change:** Once approved, enact the change and re-baseline the project schedule.

Scope Management

Implementing scope management will confirm that the project includes all work required, and only work required, to complete the project on time. The benefits of scope planning and management include:

- Project participants focus on what is most important.
- Users understand what the project will accomplish.
- A plan is established to complete the project on time and within budget.

Schedule Management

Once the Project Schedule is baselined, all tasks and activities assigned to the resources will be completed in a satisfactory and timely manner in accordance with the project schedule. Any changes to the project schedule, which affect major milestones or the final completion date, will be dealt with as CRs resulting in a new baseline version of the project schedule.

Time and Cost Management

The benefit of time management is that schedule or resource issues are identified and resolved to maintain satisfactory progress in achieving project objectives. Managing and monitoring cost regularly will confirm that the project can be completed within budget and includes:

- Cost planning determines which resources and how many are required for the project. This approach includes people, equipment, and any materials.
- Cost estimating approximates the resource time allocation and the associated cost.
- Cost control compares actual costs to estimated costs and manages changes to the project budget.

Quality Management

Quality Management establishes the processes to ensure that all project deliverables are met in compliance with acceptable quality standards. By following a structured process, the project team will ensure that the project deliverables meet the business objectives.

Quality assurance activities are conducted throughout the life of the project. These activities include peer review of code, deliverable reviews, testing (all levels), and project governance.

Resource Management

Resource management will help confirm that the appropriate resources are assigned with their time allocated efficiently. This includes the following:

- Resource planning identifies, documents, and assigns project roles, responsibilities, and reporting relationships.
- Resource staffing confirms that the right people are assigned to the project.
- Two key components in the management of the project resources of all team members and stakeholders include:
 - Establishing a clear understanding of roles and responsibilities.
 - Establishing a communications management plan.

Stakeholder Management

Stakeholder Management ensures that all stakeholders have been identified and are engaged during project planning/implementation. This includes:

- Identifying ways to engage stakeholders throughout the project life cycle.
- Verifying that communication requirements for individual stakeholders are identified and documented.

Deliverable Management

A deliverable review process is necessary to ensure deliverables meet contract requirements and are managed to the schedule. The PM will manage the deliverable review process based upon an agreed-to approach for a review period, feedback consolidation, acceptance, and sign-off and includes:

- Facilitating the timely review of project deliverables.
- Ensuring deliverables are tracked.
- Ensuring a copy of each deliverable and all supporting materials are filed as part of the project collateral.

D2 – Phase 1 Integration Platform

2.1.2 State how D2, Phase 1 Implementation, will be completed.

The implementation and configuration of the integration platform (Azure services) will be the first phase of the project. We will configure the required Azure services for each of the three environments.

Based on the RFP requirements, we anticipate using the following Azure services. The list of actual services required to be configured in Azure will be confirmed during the project. A subset of the services will be configured in Phase 1.

Azure Service	Description
Azure Data factory	After the initial creation of the ODS, all data updates from the internal and external data sources to ODS will be designed and executed using Data Factory (define ETLs, create pipelines, define parallel or serial updates, schedule data integration tasks)
Azure SQL (Managed)	Azure SQL managed instance will be used to host ODS and the staging database for the ETL processes, Person Index and auxiliary databases such as audit logs.
Azure SQL	Will be used to host the VCIJIS Data Warehouse.
Blob Storage	The Blob storage will be used for general purpose storage but specifically to store files and artifacts other than relational data.
Logic Apps	The Logic Apps will be used to address the need to: - Connect VCIJIS to internal and external services

Azure Service	Description
	<ul style="list-style-type: none"> - Created integration workflow with respect to business needs. - Orchestrate VCIJIS integration with internal and external services.
Azure Functions	<p>The Azure Functions (event-driven serverless compute platform) will be used to:</p> <ul style="list-style-type: none"> - help simplify the integration orchestration and used in the Logic apps to perform integration steps - create custom solutions in support of the VCIJIS integration requirements. - execute integration based on certain identified events.
Connectors for Logic Apps	Logic Apps provides various pre-built connectors for other Databases or systems. The connectors will be used to connect to various internal and external systems and interact with their data. Custom connectors will be used for scenarios where pre-built connectors are not available
Azure API Management	The API Management will be used to organize and manage various APIs used in the integration and portal solutions.
Azure Event Hubs	The Event Hub will be used for the data streaming requirements for VCIJIS. This will be specifically used for scenarios where data from one internal/external system need to be updated in multiple other systems near-real time
Azure Kubernetes Cluster	AKS will be used to deploy the Portal related components and some of the data transformation processes which will be part of the integration platform
VMs	VMs will be used as nodes for the AKS cluster. These VMs will be used by AKS to run the components and processes. Scale sets will maintain the scalability of the nodes in scenarios of spike of traffic through the platform. Azure managed disks will also be used as part of the VM while launching those nodes
Azure scale sets	
Azure managed disks	

To demonstrate the functionality, we will develop a pilot data exchange in the TEST environment.



The pilot data exchange services will include:

- Developing an API to receive data exchange calls.
- Developing a message schema and a few sample payloads.
- Develop a Testing Harness (Receiver of the pilot messages).
- Using a testing tool such as Postman to call the API and publish the message.
- Receiving an electronic payload (JSON or XML).
- Transforming one or more data values and saving the transformed message.
- Delivering the transformed message to an end point.
- Logging the transaction for traceability and audit.

Note: For this pilot, we either need the VCIJIS 2.0 Data Store in the Development and Test environments, or a temporary database to log the transactions for traceability and audit. We will document the implementation and configuration, and conduct a knowledge transfer training session with County IT. If the County prefers, the Production environment can be implemented at this point, or the tasks will be scheduled after additional configurations are defined in the future phases.

The following are the tasks identified for implementing the Integration Platform.

PHASE 1
Provides the system requirements to County IT for required Azure services in DEV, TEST, PROD
County IT provides 3 environments meeting the requirements
Configure Azure services in DEV
Configure Azure Services Common Integration functionality in Dev
Document the install and configuration - DRAFT
Deploy Azure Common services in TEST
Develop a pilot data exchange in TEST
Improve the documentation - DRAFT
Configure Azure services in PROD
Deploy Azure Common Services to Production
Improve and finalize the documentation
Conduct a knowledge transfer session with the County IT using the documentation

D3 – Phase 2 Data Repository

2.1.3 State how D3, Phase 2 Implementation, will be completed.

Implementing a new Data Repository, a Central Person Registry, and a new Portal are in scope for the second phase of this project.

The Data Store

The new Data Store will be a copy of the current VCIJIS 1.0 Data Store. Quartech will discuss the creation of this data store with County IT. Quartech recommends implementation be a combination of restore from a full back and addition of tables with new schema.

The Central Person Registry

Quartech will capture and verify the requirements for the Central Person Registry and will create new tables and schema to store person information, attributes, AKA, address, local identification, and finally state and federal identifications. The registry will initially be loaded with a subset of current person records for a pilot project.

The Portal

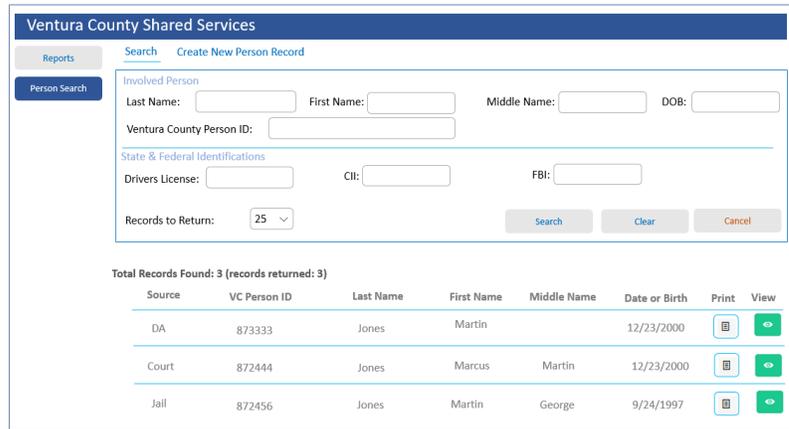
Quartech will use our existing .Net Accelerator developed for Azure to configure and customize a portal solution that will support the Search and Reporting requirements. The .Net Accelerator provides additional optional modules such as System Administration module out of the box.

Quartech will develop a pilot Person Search project in the TEST environment and test it with the new Data Store and the Central Person Registry.

We will document the implementation and configuration, and conduct a knowledge transfer training session with County IT.

If the County prefers, the Production environment can be prepared at this point, or the tasks will be scheduled after additional configurations are defined in the future phases.

The following diagram is a conceptual model of the Portal Person Search project.



Source	VC Person ID	Last Name	First Name	Middle Name	Date of Birth	Print	View
DA	873333	Jones	Martin		12/23/2000		
Court	872444	Jones	Marcus	Martin	12/23/2000		
Jail	872456	Jones	Martin	George	9/24/1997		

Tasks to implement the new VCIJS 2.0 Data Repository are shown below.

Phase 2
New Data Store
Take a Full Backup of the VCIJS 1.0 data store
Restore the VCIJS 1.0 data store in the DEV. To reduce the database size, keep the data from the last 6 months. Purge the older data.
Verify the restored DEV Data Store (test access, run queries, etc.)
Add a new database for Transaction Audit Logs (used by the integration platform).
Test the DEV Data Store with the pilot data exchange from Phase 1.
Take Full Backup of the DEV Data Store.
Restore the VCIJS 1.0 data store from DEV to TEST.
Verify the restored TEST Data Stores (test access, run queries, etc.)
Test the TEST Data Store with the pilot data exchange from Phase 1.
Restore the VCIJS 1.0 data store from TEST to PROD.
Verify the restored PROD Data Stores (test access, run queries, etc.)
Central Person Registry
Capture and verify the requirements for a Central Person Registry

Create a new Database in the DEV environment and implement the new tables for the person registry
"Import" up to 50 records for testing.
Verify the person registry database (run queries)
Backup and Restore the DEV person registry database in TEST environment.
Test the person registry with the portal pilot project.
Portal
Determine the Site URL/Domain Name/ etc. (County IT)
Create a Resource Group and an App Service Plan (DEV and TEST sites)
Develop the Portal with a pilot search function (look up involved person records in the VCJIS 2.0 Data Store, and the Person Registry database)
Deploy the portal to the App services in TEST
Configure preliminary security in TEST (simple authentication). SSO and MFA will be implemented after the pilot project.
Test the portal search in TEST
Document the portal architecture and details
Conduct a knowledge transfer session with the County IT using the documentation

D4 – Phase 3 Data Warehouse

2.1.4 State how D4, Phase 3 Implementation, will be completed.

Quartech will validate and document the Data Warehouse requirements with the County. Implementing the Data Warehouse will be accomplished in stages and will build a foundation for future phases.

Quartech will design the schema and tables needed to implement a pilot project for reporting. We will create the tables, install SQL Server Reporting Service, and configure the server to use the Data Warehouse for reporting purposes.

We will develop an ETL project to extract data from the new Data Store, transform the data and load the data into Data Warehouse.

We will develop a pilot report and deploy it to the TEST Report Server for testing. The County may create pilot Power BI reports using the Data Warehouse.

We will test the pilot report in the TEST Portal.

We will document the implementation and configuration, and conduct a knowledge transfer training session with County IT.

If the County prefers, the Production environment can be implemented at this point or the tasks will be scheduled after additional configurations are defined in the future phases.

The following are the tasks we have identified for the implementation of the Data Warehouse.

Phase 3
Capture and verify the requirements for the Data Warehouse
Design the Data Warehouse (databases, tables, preliminary schema).
Create the databases and tables in DEV.
Review the DEV Data Warehouse - Implement changes where needed.
Backup the DEV Data Warehouse and Restore it in TEST environment.
Implement a pilot ETL in TEST (data load from VCIJIS 2.0 Data Store).
Install and configure the SQL Server Reporting Services in DEV and TEST.
Configure the reporting servers with the Data Warehouse.
Create a pilot report in the reporting server (DEV).
Deploy the pilot report in the TEST Report server.
Test the new report in the TEST Portal and verify that it contains data from the Data Warehouse
The County may use Power BI to create pilot BI project using the Data Warehouse.
Document the schema and configuration of the Data Warehouse
Document the SQL Server Reporting Service
Conduct a knowledge transfer session with the County IT using the documentation

Note:

We recognize that the VCIJIS 2.0 solution will eventually include Power BI reports to better analyze and report the information stored in the Data Warehouse. The number of report publishers and viewers would need to be taken into considerations before deciding on the type and number of licenses and Power Bi implementation options. Other factors will also influence the licensing options such as budget, capacity, etc. (Premium license per capacity and SQL Enterprise with Software Assurance might be better choices based on County’s use). The County will be able to assess the needs and select one or more licensing options in the future phases.

D5 – Operational & Training Documentation Delivered

2.1.5 State how D5, Operational & Training Documentation, will be completed.

Quartech has extensive experience planning and delivering training programs for large complex system implementation projects. Our implementation and training specialists are continuously adapting our approach to include new and innovative methods and tools for delivering training and knowledge transfer programs, particularly for new system implementations.

We know that effective training and support documentation will be instrumental in defusing user resistance to change, improving skill levels, increasing office and staff comfort and acceptance levels; and contributing to the overall success of the project.

Our standard training approach for a successful “Training Campaign” is composed of the following:



Training Needs Assessment

The Training Needs Assessment is the foundation of our “Training Campaign”. We will conduct sessions with key stakeholders and project representatives that include all areas of operational and technical preparedness to determine the full spectrum of business and technical learning needs.

We will start by working collaboratively with the County to confirm the training needs, ensure alignment, and ultimately provide employees with the skills and competencies needed to effectively use and support the solution. The assessment ensures training needs encompass both the new system and any new/changed business processes that the County identifies.

Training Program Development

Together with the County, we will establish a training program to support all aspects of training for the successful implementation of the solution.

Quartech will produce a Training Plan that includes scope, objectives, approach, and critical success factors.

Training Program Delivery

Our team will deliver two types of training to meet the training requirements identified by the County for implementation and future needs.

Train-the-Trainer

Our Train-the-Trainer model for the training resources provides designated County resources with coaching and guidance on how to train others to use and support the solution. The advantage of this approach is a sustainable training platform that can continue in-person training once the project is completed.

System Administrator Training

System Administrator Training provides the tools and knowledge to support security, permissions, issue, and resolution activities as they arise.

The training of the technical staff serves as part of the transition of the solution to the County for business use and operations. This technical training will serve as the fundamental component of our knowledge transfer approach. It is our goal that once the project is over, County resources will be fully competent in both the technical and business functionality of the solution.

D6 – Six Exchanges Development Complete

2.1.6 *State how D6, Six Exchanges Development, will be completed.*

We have a proven track record when it comes to developing various data exchange types. This is partly due to our commitment to the following approach:

1. Discover, document, and understand the business needs (Why do business units need this data exchange?)
2. Discover, document, and commit to comply with the technical requirements (How could this data exchange succeed without compromising security, data integrity, and performance?)

Business Requirements- Our process begins with conducting workshops and meetings with the business unit representatives to explore, understand, and document their use cases with regard to the need to exchange data between systems or applications. For best results, the Publishers of the data and Subscribers to the data, or source data Creators/Owners and the Consumers of the data, take part in this exercise.

Analysis – We analyze the findings while maintaining open and frequent communications with the stakeholders. We review the findings by creating “user stories” or scenarios back to the business units and solicit feedback. This ensures that the scenarios, terminologies, data values and expectations for potential transformation of data are captured correctly.

Technical Requirements – We meet with the technical representative and review the security, encryption, data volume, load, latency, data source and destination connectivity, storage, audit tracing and any other requirements that a jurisdiction may require to comply with.

Information Exchange Document (IED) – We develop IEDs for each data exchange and request that stakeholders review it and provide feedback. The IED becomes one of the critical documents for the entire project team.

DevOps – We create tasks for development and testing of each data exchange and assign them to the lead members of the project team.

Development – We develop data exchange services, scripts, packages, error handling, and audit logging for each data exchange. Developers often create “test harnesses” to conduct unit testing while developing the entire exchange.

Integration Testing – We develop Test Scripts to ensure all potential use cases and expected results for data exchanges are included in our testing process. We use the source and destination non-production environments to test the integration and monitor logs and performance. We conduct these tests with the stakeholders’ participation. A report is produced that lists the test scripts and the actual results.

User Acceptance Testing (UAT) – We schedule and support user testing of all data exchanges using either “live” systems or non-production systems. We capture the test results and confirm them with the stakeholder. Notifications and alerts are monitored with the County’s IT team to ensure adequate logging and notification is in place for the support teams.

Deployment – Data exchanges that have passed the UAT and are approved for deployment are scheduled to be deployed to the production systems following an agreed upon Change Control process.

Monitoring and Support – All new data exchanges are monitored for a predetermined period of time. We support and fix reported errors and defects and provide root cause analysis, and conduct knowledge transfer to the IT team.

Deliverable Pricing

Deliverable pricing is included in the Updated Price Proposal with Azure Services document provided to the County on October 17, 2023.*

*Updated pricing was provided to the County on November 28, 2023 and serves as Exhibit A - Pricing



REQUEST FOR PROPOSAL #6129

VCIJIS Integration Platform Solution
including Portal and Data Warehouse

Question Set 3: Section 3.3 –
Support and Enhancement Phase
Question Set 4: Section 3.4 -
Requirements Narrative

Quartech Justice Solutions

UPDATED: November 27, 2023



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Question Set 3: Section 3.3 - Support and Enhancement Phase

3.0.1 *Provide an industry-standard, best practices approach for ongoing integration support for the County, with information on a support model comprised of support, maintenance, enhancement, and County team technical support, including pricing for the approach.*

The unique nature of each client's operational environment and a department's internal IT support capacity and competency adds to the complexity of long-term maintenance and support. Many of the maintenance requirements are not simply "break/fix" as you find in the traditional software maintenance and support model. Our experience suggests that much of the maintenance involves addressing changes to the source systems and integration processes over time and supporting the agency with needed operational enhancements. Furthermore, many agencies find the core data warehouse provides a valuable platform to develop additional integration and analytic capabilities for the Department.

In Quartech's experience working with other Justice and Public Safety clients, the most effective way to structure maintenance and support services agreements is to combine preventive maintenance, operations support (data sources), and system enhancement services into an integrated resource pool. Typically, we structure agreements to provide a pool of hours that is allocated by our clients to their highest priority activities.

This approach has several benefits. It provides a stable pool of qualified technical resources that are always available to the County for the highest priority activities. By allocating a consistent pool of hours, Quartech verifies that our staff is dedicated to the needs of the County and that our staff develops deep experience on the County configuration. Finally, this arrangement provides a consistent, predictable monthly expense which enables accurate budgeting and resource planning for our clients.

Question Set 4: Section 3.4 - Requirements Narrative

Question Set 4 Instructions

For each section within the response, Offerors will be evaluated on the narrative response in each section as well as requirement responses in the Integration Requirements Matrix. For each section below, Offerors must provide a summary of the capabilities/features offered for the functional area as a separate requirements attachment to be uploaded to "Misc. - Vendor Optional". Offeror's response will be a single PDF file with up to 30 pages of content.

VCIJS 2.0 Integration Requirements

4.1.1 *For Integration Scenarios, provide a summary description of the ability of the Integration Platform to support common integration use cases and patterns, including those listed on page 19 of the RFP.*

Azure Integration Services is a suite of cloud services offered by Microsoft Azure to facilitate integration scenarios between various applications and services. The Integration Platform within Azure Integration Services includes several key components that collectively support common integration use cases and patterns. In responding to the VCIJS 2.0 Integration Requirements, our team has leveraged existing Microsoft Azure documentation to outline the features and services available. Not all services listed

below are required for the VCIJS 2.0 project but have been listed to ensure a complete response when the question asks about the solution capability.

1. **Azure Logic Apps** - Azure Logic Apps provide a visual designer for building workflows that can integrate with various Azure and third-party services. It supports connectors for a wide range of applications and services, enabling the creation of complex workflows through a low-code/no-code approach.
2. **Azure Service Bus** - Azure Service Bus is a messaging service that supports both cloud and on-premises scenarios. It enables reliable and secure communication between applications and services, supporting messaging patterns such as publish/subscribe, point-to-point, and request/response.
3. **Azure Functions** - Azure Functions is a serverless compute service that allows you to run event-triggered code without explicitly provisioning or managing infrastructure. It can be used for building microservices and responding to events within an integration scenario.
4. **Azure API Management** - Azure API Management allows you to create, publish, and manage APIs in a secure and scalable manner. It provides features for API versioning, access control, and analytics, making it suitable for exposing and managing APIs in integration solutions.
5. **Azure Event Grid** - Azure Event Grid is a fully managed event routing service that enables the integration of events between different components. It supports a wide range of Azure and third-party services and allows you to react to events in near-real-time.
6. **Azure Data Factory** - Azure Data Factory is a cloud-based data integration service that allows you to create, schedule, and manage data pipelines. It supports the extraction, transformation, and loading (ETL) of data from various sources to various destinations.
7. **Azure Cognitive Services** - Azure Cognitive Services provide pre-built AI capabilities that can be easily integrated into applications. These services include computer vision, natural language processing, and other AI functionalities, enabling intelligent automation and decision-making in integration scenarios.
8. **Azure Synapse Analytics** - Formerly known as Azure SQL Data Warehouse, Azure Synapse Analytics is a cloud-based analytics service that supports big data and data warehousing scenarios. It can be used in integration solutions to analyze large datasets and gain insights from diverse data sources.

These services collectively provide a robust and scalable platform for addressing a wide range of integration use cases and patterns within the Azure ecosystem. They cater to both cloud-to-cloud and hybrid integration scenarios, allowing organizations to build flexible and resilient integration solutions.

- *Integration of on-premises applications and/or data sources*
 - o *Describe the application integration via APIs and integration with the data sources using ETL capabilities.*

Azure Integration Services offers robust capabilities for application integration via APIs and integration with data sources using Extract, Transform, Load (ETL) capabilities. Below is an overview of how Azure facilitates these aspects:

Application Integration via APIs:

- **Azure Logic Apps** - Azure Logic Apps enables the creation of workflows and automation by connecting various applications, services, and systems. It supports a wide array of connectors, including APIs for popular SaaS applications, on-premises systems, and Azure services. Logic Apps allows you to easily integrate with external APIs through custom connectors or built-in connectors for services like Microsoft 365, Salesforce, and more.
- **Azure API Management** - Azure API Management provides a scalable API gateway for building, deploying, and managing APIs. It ensures that APIs are secure, well-documented, and easily consumable. API Management allows you to create, publish, and secure APIs, making it a central component for application integration. It supports API versioning, access control, and analytics.
- **Azure Functions** - Azure Functions is a serverless compute service that allows the execution of code in response to events. It can be used to build lightweight APIs and microservices. Functions can expose HTTP-triggered endpoints, enabling the creation of API-like functions that respond to HTTP requests. This is particularly useful for building serverless APIs.

Integration with Data Sources using ETL Capabilities:

- **Azure Data Factory** - Azure Data Factory is a cloud-based ETL service that enables the creation, scheduling, and orchestration of data workflows. It supports data movement and transformation from various sources to various destinations. Data Factory allows you to create data pipelines that extract data from sources, transform it using data flows, and load it into target data stores. It supports both batch and real-time data integration scenarios.
- **Azure Synapse Analytics** - Azure Synapse Analytics (formerly Azure SQL Data Warehouse) is a cloud-based analytics service that supports big data and data warehousing scenarios. Synapse Analytics includes powerful ETL capabilities through its integration with Azure Data Factory. It enables the transformation of large datasets and supports analytics and reporting.
- **Azure Logic Apps (Data Integration)** - In addition to its application integration capabilities, Logic Apps also supports data integration scenarios. It can connect to various data sources and destinations, transforming and manipulating data in transit.

Azure Stream Analytics - Azure Stream Analytics is a real-time analytics service that enables the processing of streaming data. Stream Analytics supports ETL scenarios for real-time data streams, allowing you to ingest, process, and output data in near real-time.

By combining these services, Azure Integration Services provides a comprehensive platform for both application integration via APIs and data integration using ETL capabilities. This allows

organizations to build end-to-end integration solutions that span across applications, services, and data sources, whether on-premises or in the cloud.

- *Process integration*
 - o *Describe how certain event can be detected by the integration platform, tasks and events can be scheduled, and the integration platform can include these in workflow.*

Azure Integration Services provides several components that facilitate event detection, task scheduling, and the inclusion of these elements in workflows. Key services and features that contribute to these capabilities are outlined below:

Event Detection:

- **Azure Logic Apps** - Logic Apps enable the creation of workflows triggered by events in various services and systems. Logic Apps supports a wide range of connectors and triggers that can detect events, such as new items in a storage account, incoming emails, changes in a database, or custom webhook events. These triggers initiate workflows in response to detected events.
- **Azure Event Grid** - Azure Event Grid is a fully managed event routing service that simplifies the development of event-based applications. Event Grid can be used to detect and react to events across Azure services and custom sources. It supports event filtering and routing, allowing you to define rules to route events to specific endpoints or subscribers.
- **Azure Functions** - Azure Functions can be triggered by various events, such as HTTP requests, timer-based schedules, or events from Azure services. Functions can serve as event handlers, executing specific tasks in response to detected events. This makes them valuable components in event-driven architectures.

Task Scheduling:

- **Azure Logic Apps** - Logic Apps includes scheduling capabilities that allow you to define recurring workflows based on a specified time or interval. This is useful for tasks that need to be executed on a regular basis.
- **Azure Functions** - Azure Functions can be configured to run on a schedule using built-in triggers like TimerTrigger. This allows you to automate tasks at specified intervals without the need for continuous execution.
- **Azure Automation** - Azure Automation provides a set of tools for automating manual, long-running, error-prone tasks. Azure Automation includes the ability to schedule runbooks, which are a set of tasks that perform automated processes. This is particularly useful for managing and maintaining Azure resources.

Workflow Inclusion:

- **Azure Logic Apps** - Logic Apps serves as a powerful workflow engine where you can orchestrate tasks, connect to various services, and define conditional logic. It supports both sequential and parallel execution of tasks, allowing you to create complex workflows.

- **Azure Data Factory** - Azure Data Factory is a cloud-based data integration service. Data Factory enables the creation of data workflows that involve event-driven triggers, data movement, and transformation tasks. It can be included in broader workflows for end-to-end data integration scenarios.

By leveraging these services in combination, you can build integration solutions in Azure that effectively detect events, schedule tasks, and include them in complex workflows. This allows for the automation and orchestration of various processes, making your integration solutions more efficient and responsive to changes in your environment.

- *Cloud service integration*
 - *A bit redundant but, describe the connectors and the APIs that can integrate with Cloud services and application.*

Azure Integration Services provides a wide range of connectors and APIs that facilitate the integration of cloud services and applications. These connectors and APIs enable seamless communication and data exchange between different services and platforms. Below are some key components and examples of connectors/APIs in Azure Integration Services:

Connectors in Azure Integration Services:

- **Azure Logic Apps** - Logic Apps supports a vast array of connectors that enable integration with various cloud services and applications. These connectors cover services like Microsoft 365, Azure services, third-party SaaS applications, databases, etc.
- **Azure API Management** - Azure API Management allows you to create, publish, and manage APIs securely. It supports a range of protocols and provides features such as versioning, access control, and analytics.
- **Azure Functions** - Azure Functions is a serverless compute service that allows the execution of code in response to events. It can be used to build lightweight APIs and microservices. Functions can expose HTTP-triggered endpoints, enabling the creation of API-like functions that respond to HTTP requests. This is particularly useful for building serverless APIs.

APIs for Integration:

- **Azure REST APIs** - Azure offers REST APIs for managing and interacting with various Azure services, allowing programmatic control over resources. Use Cases:
 - Managing virtual machines
 - Deploying and managing Azure resources
 - Accessing Azure Monitor metrics
- **Azure Management APIs** - Azure Management APIs provide programmatic access to Azure Resource Manager, allowing the management of resources in Azure. Use Cases:
 - Resource provisioning and management
 - Role-based access control

- Template deployments (ARM Templates)
- **Custom APIs** - In scenarios where pre-built connectors are not available, Azure Integration Services allows you to create custom APIs to expose and consume functionality. Use Cases:
 - Building custom interfaces for specific applications
 - Exposing business logic as APIs
 - Integrating with legacy systems

These connectors and APIs in Azure Integration Services offer a comprehensive set of tools for integrating with a diverse range of cloud services, applications, and data sources. This flexibility allows organizations to create tailored integration solutions that meet their specific need.

- *API integration*
 - *Describe the API Gateway and the flexibility to add/remove endpoints and integrations using the API gateway.*

Azure API Management is a key component of Azure Integration Services that provides an API gateway for building, deploying, and managing APIs. It acts as a centralized platform for managing APIs, offering various features that enhance the flexibility to add or remove endpoints and integrations. Below are the key aspects related to Azure API Management:

Azure API Management

- **API Gateway** - Azure API Management serves as an API gateway that provides a consistent and secure entry point for APIs. It handles tasks such as request routing, authentication, authorization, and analytics. API Management routes incoming API requests to the appropriate backend service based on configured policies. It provides mechanisms to secure APIs, including key validation, OAuth, and integration with Azure Active Directory for identity management.
- **Dynamic Endpoint Management** - Azure API Management allows dynamic registration of backend services, enabling the addition or removal of endpoints without affecting the client-facing API.
- **Backend Service Configuration** - Endpoints and integrations are configured through the Azure portal or APIs, providing a flexible and dynamic way to manage the backend services.
- **API Versioning** - Azure API Management supports versioning of APIs, allowing you to introduce changes without breaking existing clients. You can add new versions of APIs and manage them through the API Management interface, ensuring a smooth transition for developers.
- **API Policies** - API Management allows you to define policies at different levels (API, operation, or product) to customize the behavior of your APIs. Policies can be added, modified, or removed dynamically, providing flexibility in adjusting API behavior without redeploying the entire API.

- **API Lifecycle Management** - Azure API Management supports the entire API lifecycle, from design and development to deployment and monitoring. Changes to APIs, including adding or removing endpoints, can be made at various stages of the API lifecycle, ensuring flexibility in adapting to evolving requirements.
- **Scalability** - API Management is designed to scale horizontally to handle increasing loads and traffic. The API gateway scales dynamically based on demand, providing flexibility in handling varying workloads without manual intervention

The flexibility provided by Azure API Management allows organizations to adapt their API strategies to changing business requirements. Whether adding new endpoints, modifying policies, or managing versions, API Management supports a dynamic and scalable approach to API governance and integration.

- *Mobile app integration*

- *Describe how your solution can integrate with Mobile apps (maybe other than APIs).*

Azure Integration Services provides various tools and services that enable seamless integration with mobile apps. While APIs are a primary means of integration, Azure also offers additional services and features that enhance mobile app integration.

- **Azure App Service** - Azure App Service is a fully managed platform for building, deploying, and scaling web apps. It supports various programming languages and frameworks. Mobile apps can consume Web APIs hosted on Azure App Service, allowing for easy integration with backend services.
- **Azure Logic Apps** - Azure Logic Apps is a cloud-based service for building workflows and integrating systems, services, and applications. Logic Apps can be used to orchestrate workflows involving mobile app integrations. For example, triggering workflows based on events in mobile apps or invoking actions in response to certain conditions.
- **Azure Functions** - Azure Functions is a serverless compute service that allows the execution of code in response to events. Azure Functions can be used to implement serverless backend functions for mobile apps, handling tasks such as data processing, file uploads, or custom business logic.

These services collectively provide a comprehensive set of tools for integrating Azure services with mobile apps. By combining these components, developers can create scalable, secure, and feature-rich mobile app solutions that leverage the power of Azure's cloud services.

- *IoT Integration*

- *Describe how internet connected devices can connect to the platform and transmit data.*

Azure provides several services and features to facilitate the connection of internet-connected devices and the transmission of data to Azure Integration Services. This process typically involves using IoT (Internet of Things) services in conjunction with integration services to collect, process, and analyze data from devices.

- **Azure IoT Hub** - Azure IoT Hub is a fully managed service that enables bi-directional communication between IoT applications and the devices it manages. Devices connect to Azure IoT Hub using standard IoT protocols such as MQTT, AMQP, or HTTP. Each device is provisioned with a unique identifier and security credentials for authentication. Devices send telemetry data, status updates, and other information to IoT Hub, which acts as a message broker for device-to-cloud communication.
- **Azure IoT Edge** - Azure IoT Edge extends IoT capabilities to the edge, allowing devices to run containerized workloads locally. IoT Edge devices can perform data processing and analytics locally, reducing the need to transmit all data to the cloud. This is especially useful for scenarios requiring low-latency or bandwidth optimization.
- **Azure Event Hubs** - Azure Event Hubs is a highly scalable and real-time data ingestion service that can be used to ingest and process large volumes of streaming data. Devices can send data directly to Event Hubs for real-time processing. Event Hubs can act as an entry point for streaming data into Azure.
- **Azure Stream Analytics** - Azure Stream Analytics is a real-time analytics service that allows you to process and analyze streaming data. Devices' data can be processed in real-time using Stream Analytics. You can define queries to filter, aggregate, and transform the incoming data before sending it to downstream services.
- **Azure Logic Apps** - Azure Logic Apps is a cloud-based service that allows you to create workflows to integrate services, systems, and devices. Logic Apps can be triggered by events from IoT Hub or Event Hubs, allowing you to create workflows that respond to specific conditions or patterns in the data sent by devices.
- **Azure Functions** - Azure Functions is a serverless compute service that allows you to run code in response to events. Functions can be triggered by events from IoT Hub or Event Hubs, enabling you to execute custom code in response to device data.

By utilizing these Azure services, organizations can build scalable and flexible solutions for connecting internet-connected devices, transmitting data securely, and integrating that data into broader workflows and analytics pipelines.

- *Event stream ingestion and delivery*

Azure Integration provides several services and tools for handling event stream ingestion and delivery, allowing organizations to build scalable and real-time event-driven architectures. The key services involved in this process include Azure Event Hubs, Azure Stream Analytics, and other related components.

- *Digital integration Hub*
 - *Describe how the platform can be configured as a digital integration hub for scenarios that data ingestion volume is high, or the transitioning of data from the publisher to the subscriber could face latency.*

Azure Integration Services can serve as a powerful digital integration hub, facilitating seamless connectivity, data transformation, and orchestration of processes across various applications, services, and systems. A digital integration hub enables organizations to integrate diverse endpoints, manage data flow, and enforce business logic.

4.1.2 *For Endpoint Connectivity/Adaptors, provide an overview of the major capabilities/features as defined on pages 20-21 of the RFP.*

- *Communication protocol connectors – Communication protocols such as HTTP, FTP, TCP/IP, AMQP, JMS, ODBC, etc.*
- *Data connectors / Adapters – Data connectors for database management systems, on-premises or cloud-based, such as relational, nonrelational (Data Lake, NoSQL, etc.), flat files (VSAM, etc.), cloud data stores (AWS Redshift, Azure SQL), and various types of data structures.*
- *File / data formats – Ability to access and interpretation of a variety of file and data formats such as XML, JSON, ASN.1, etc.*
- *Industry-standard message formats – Interpretation and creation of industry-standard message formats, such as NIEM, and HL7*
- *Custom connectors – Provide software development kits (SDKs) to allow the County or its agency system vendors to create additional connectors to less-common or unique endpoints of data and applications.*

4.1.3 *For Communication Styles, define the major capabilities/features offered in this area that include protocol mapping, publish and subscribe, synchronous and asynchronous messaging, event-driven interaction, and file-driven interaction.*

4.1.4 *For Orchestration, provide an overview of the execution of process logic spanning multiple back-end services or applications for implementing composite services or automated system-to-system processes.*

Provide an overview of the execution of process logic spanning multiple back-end services or applications for implementing composite services or automated system-to-system processes. Orchestration types include but are not limited to: · Routing · Multistep processes · Composite applications/services · Flow specification · Flow representation · Flow extension · Long lasting processes · Event-driven.

4.1.5 *For Mediation, provide an overview of the major capabilities/features as defined in the section on page 21 of the RFP.*

Ability to apply intermediary functions to messages in flight as they pass through orchestrated flows. Mediation criteria include but are not limited to: · Inspection · Validation · Routing · Enrichment · Logging/Tracking · Canonical models / intermediary data models · Services abstraction · Services management · Service binding.

4.1.6 *For Transformation, provide an overview of the major capabilities/features as defined in the section on page 21 of the RFP.*

Ability to capture, reconcile and transform semantics and create and maintain representations. Transformation features include, but are not limited to: · Model discovery · Modeling support ·

Message transformation & translation · Metadata/model synchronization · Semantic extension · Semantic model presentation.

For questions 4.1.2 through 4.1.6, Quartech is proposing using a variety of Azure cloud services to support the VCIJIS 2.0 Integration Requirements. The architecture and the Azure services required to support these requirements are provided below.

Azure Integration Architecture

The VCIJIS 2.0 Integration Platform solution will be a collection of several well-orchestrated Azure services, microservices, secured data stores, managed APIs, and robust rules that will function together as a unified integration platform for the County.

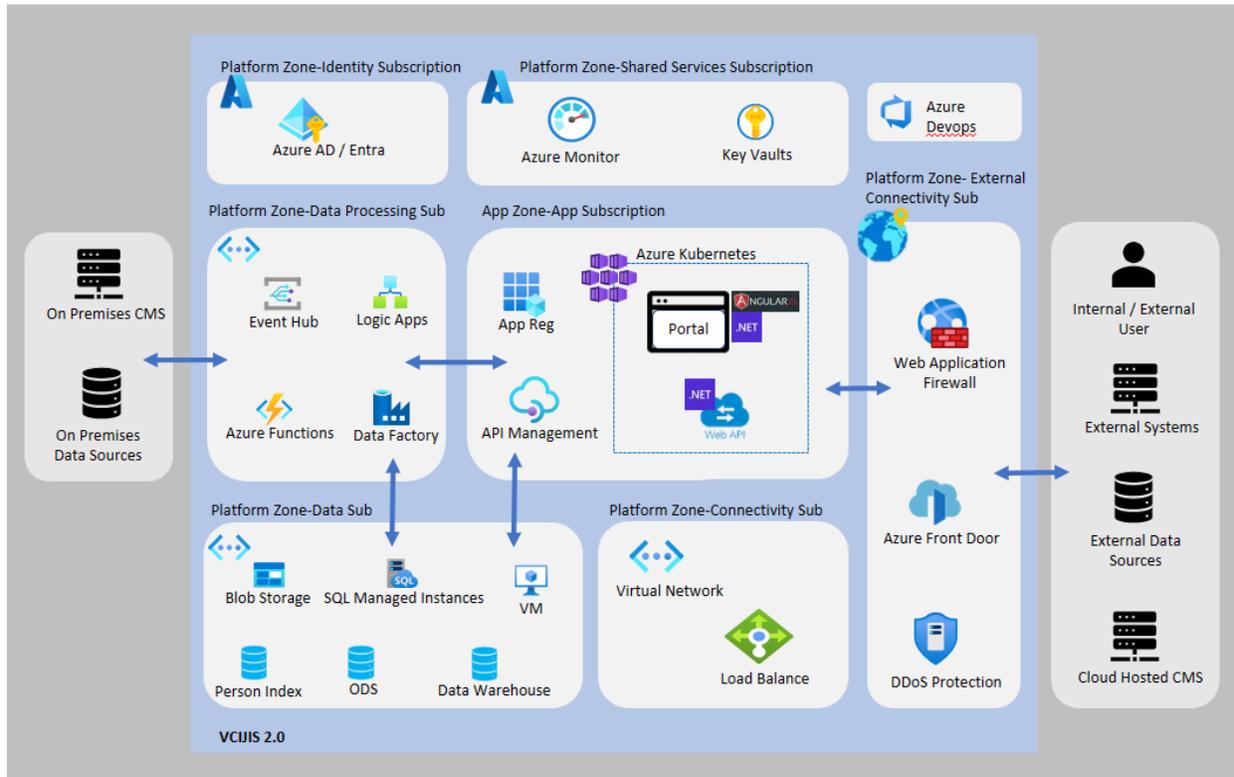
Key features and layers within the Azure Integration Architecture, include:

- The user authentication layer will be implemented to permit user access to information with strict rules and authorization policies. Users' access to information will be possible only through a secure web application layer.
- The web application will connect to the data through a layer of backend applications and utilities, APIs and scripts and services.
- The integration and utility layer will prevent external access to VCIJIS internal layers; however, the integration services will be configured to connect to internal and external data sources and applications to harvest data and store it in the data layer.
- The data will remain encrypted at rest and protected from direct user access. For the Operational Data Repository, Central Person Registry, and reporting Data Warehouse we propose the SQL Server technology. In Azure cloud, the databases will be hosted on SQL server in Virtual Machines and Azure SQL Managed Instance (PaaS).
- The solution architecture will ensure security and integrity of the data is at the center of the solution architecture without compromising adequate access to information and the overall performance of the integration solution.

The Quartech assessment also recommends hosting the Azure Integration Architecture in the Ventura County Azure environment.

We will work with County IT to create secure VLANs and create development, testing and production environments. Storage, Virtual Machines, and services will be configured in compliance with the County policies, best practices, and budgetary constraints.

Azure Integration Architecture



Azure Services

Based on the requirements of the RFP, Quartech recommends the following Azure services. Actual services required may be modified based on the data exchanges beyond the initial six data exchanges scoped in the RFP or if, during implementation, the County and Quartech conclude that certain VCIJIS functions can be handled in alternative ways that provide the County with flexibility, cost savings, and/or performance improvements.

Table 1. Azure Integration Architecture Services

Recommended Azure Service	Applicability to VCIJIS 2.0 Environment
Azure Data Factory	After the initial creation of the ODS, all updates from the internal and external data sources to ODS will be designed and executed using Data Factory (define ETLs, create pipelines, define parallel or serial updates, schedule data integration tasks)
Azure SQL	Azure SQL managed instance will be used to host ODS, Person Index and auxiliary databases such as audit logs.
Azure SQL Database	Azure SQL will be used to host the VCIJIS Data Warehouse.

Recommended Azure Service	Applicability to VCIJIS 2.0 Environment
Blob Storage Accounts	The Blob storage will be used for general purpose storage but specifically to store files and artifacts other than relational data.
Logic Apps	<p>The Logic Apps will be used to address the need to:</p> <ul style="list-style-type: none"> - Connect VCIJIS to internal and external services - Created integration workflow with respect to business needs. - Orchestrate VCIJIS integration with internal and external services.
Azure Functions	<p>The Azure Functions (event-driven serverless compute platform) will be used to:</p> <ul style="list-style-type: none"> - Simplify the integration orchestration. - Create custom solutions in support of the VCIJIS integration requirements. - Execute integration based on certain identified events.
Connectors for Logic Apps	Logic Apps provide various pre-built connectors for other Databases or systems. The connectors will be used to connect/interact with various internal and external systems. Custom connectors will be used for scenarios where pre-built connectors are not available.
Azure API Management	The API Management will be used to organize and manage various application interfaces used in the integration and portal solutions.
Azure Event Hubs	The Event Hub will be used for the data streaming requirements for VCIJIS. This will be specifically used for scenarios where data from one internal/external system need to be updated in multiple other systems near-real time
Azure Kubernetes Service (AKS)	AKS will be used to deploy the Portal related components and some of the data transformation processes which will be part of the integration platform.
Virtual Machine (VM), Azure Scale Sets and Azure Managed Disks	One or more Virtual Machines can be used to host a reporting SQL Server. The Portal reporting requirements will be met by provisioning VMs and hosting the reporting database (one per environment). VMs will be used as nodes for the AKS cluster. These VMs will be used by AKS to run the components and processes. Scale sets will maintain the scalability of the nodes in scenarios of spike of traffic through the platform. Azure

Recommended Azure Service	Applicability to VCIJIS 2.0 Environment
	managed disks will also be used as part of the VM while launching those nodes.
Azure Active Directory External Identities	This will be used for identity management for internal and external users and may be integrated with other security identity providers such as OKTA.
Azure Virtual Network	Virtual Networks will mainly be used to secure and isolate services and applications. All the services will run in isolated networks with private endpoints as needed.
Azure Load Balancer	Load balancer will be used to make the applications fault tolerant. Specifically the portal endpoints will be routed to a load balancer to have a resilient performance of the application which will help determine where to route the traffic based on health of the services.
Azure Firewall	The Azure Firewall will be used to perform security checks, decrypt and encrypt traffic to and from services and endpoints.
Azure Front Door	This will be used to provide the entry point for the application endpoints. This will also provide a CDN capability to provide the edge capability for the applications like Portal. For instances of disaster recovery, this service will be used to perform a failover to secondary services.
Azure DDoS Protection	All external facing endpoints will be protected by DDoS protection service to protect against DDoS attacks and prevent bottleneck of services or stop piling up of billing due to the DDoS attacks.
Azure Repo	All application and infrastructure codes will be stored in an Azure Repo and repositories will be created for different applications and infrastructure modules
Azure DevOps	The Azure DevOps will provide a platform to maintain source code, builds and deployment pipelines and history as well as tools to manage tasks and track progress.
Azure Monitor	The Azure Monitor will be used to collect, analyze, and respond to monitoring data from VCIJIS environments.
Azure Alerts	Used to alert users when potentials issues happen in any of the services which are monitored by Azure Monitor

Recommended Azure Service	Applicability to VCIJIS 2.0 Environment
Azure Key Vault	The Key Vault will be used to store accessing secrets for various components and services.

VCIJIS 2.0 Portal Requirements

- 4.2.1 *For Data Access, provide an overview of the major capabilities/features as defined in the section on page 22-23 of the RFP.*

The Shared Services Portal will use identity management to control many users spanning a variety of different roles across the organization and sometimes outside the organization while accessing content, applications, and services. Requirements specifically related to: · Directory Services · User Provisioning · Security

Our proposed Portal solution will integrate with the Ventura County LDAP/Active Directory as the central Directory Service. There will be no duplicate efforts for provisioning and managing user accounts, and no risk for conflict with the user permissions and role. Access to the Portal and its search filters will be managed using the County Organizational units, groups memberships, and the roles defined in the Portal solutions.

The Portal will integrate with an Identity provider used by the County, such as OKTA, to provide Single Sign On for valid and authorized user accounts.

- 4.2.2 *For Search/Information Services, provide an overview of the major capabilities/features as defined in the section on page 21 of the RFP.*

Portal searching is a primary capability of the system. The Portal must include a secure Search feature enabling users to search content and receive only those results based on the criteria specified by the user and that they are authorized to receive.

Quartech will work with the County to define various search filters, job functions, roles and responsibilities that will help us develop search capabilities tailored to each user group and restrict access to information needed by roles and job functions.

Search results returned for each search function will include only relevant and permitted values identified by the County for a particular search and will be shared with authorized users according to their defined roles.

- 4.2.3 *For Personalization, provide an overview of the major capabilities/features as defined in the section on page 23.*

Personalization is the ability to deliver content based on selective criteria and offer services to a user based on the user role, as well as the ability to customize content.

In addition to the search features and access restrictions described in 4.2.2, the solution will be able to deliver customized content in search results, reports, or custom queries. Access to customized content will be restricted to designated roles.

- 4.2.4 *For Integration, provide an overview of the major capabilities/features as defined in the section on page 23 of the RFP.*

The ability to interact with the integration platform to search, integrate and aggregate data. The Operational Data Store will house the operational data from all five County justice agencies. Use cases such as identifying and displaying information related to an individual across five disparate systems is a key feature to be returned within the portal results.

Quartech has a proven track record of developing Federated Search capabilities (searching two or more data sources and returning results simultaneously to the user while identifying the source of the returned data). Although the VCIJIS portal may not require simultaneous searches of various data sources, we will be using the same principles to search the Operational Data Store for information related to individuals (or affiliated data) originated from various partner agencies (publishers) and return multiple results that will clearly identify the “source” or the “origin” of the data.

- 4.2.5 *For Performance, provide an overview of the major capabilities/features as defined in the section on page 23 of the RFP.*

Portal performance is key to user acceptance and overall usability. Given performance is a complex interaction between all network, data repository and justice applications, the performance requirements focus on capacity planning, management, and scalability of the capability.

Quartech’s approach to developing the Portal includes careful planning for functionality and performance. Working closely with County IT, we will optimize table structures, computational power, storage, search filters and features, and the user interface. Performance is one of the key indicators of a successful implementation. The Portal will be designed for scaling up and scaling out to address peak use periods and higher volumes of queries.

VCIJIS 2.0 Repository & Data Warehouse Requirements

- 4.3.1 *Describe the tools available for creation and control of a database and explain the level of automation.*

Database Creation: Since the initial state of the Operational Data Store is set to be the “exact copy of the VCIJIS 1.0 data store,” the current database backups will be used to fully restore and create the VCIJIS 2.0 Operational Data Store. New databases and tables that will enhance and expand the Operational Data Store will be created either manually using Microsoft SQL Server Management Studio, or automated using SQL Scripts and ETL Packages.

Database Control: The primary tool to manage the databases will be the SQL Server Management Studio to setup and control Security and access. Quartech will use ETL scripts to control data inserts volumes, frequency, data format and quality. Storage Management tools at the County IT facilities will help monitor and control performance and storage expansions.

- 4.3.2 *Describe the tools or capabilities for monitoring and alerting on potential issues, including performance issues.*

The Data Repository and the Data Warehouse will be largely managed by the SQL Server Management Studio. Monitoring and alerting on potential database or data-related issues will be accomplished using the host servers monitoring and reporting tools, storage device

management tools, custom error handling and automated alerting solutions and more.

Monitoring/alerting tools or capabilities include:

- Host servers will be monitored and managed by the County IT facilities and tools. Issues and errors related to the OS and local resources will be reported with automated and manually managed tools.
- SSMS will be used by the County IT staff and the project support team to monitor potential issues reported in the logs.
- Database storage management will be part of a larger storage monitoring, management and reporting practices by the County IT staff.
- Custom Error Handling and Notification – The solution will include custom error handling capabilities and will be used to monitor the databases and transactions. Errors will be categorized and will be reported to the project support team and the County IT staff.
- Failures and custom notifications- Critical failures, such as failures during data exchanges, will be captured and custom notifications will be sent out to the project support team and the County IT staff and where appropriate, the partner agencies will be notified of the failures.
- Automatic Retry (data exchanges, data transitions) – The solution will include “automated” retrying of transactions and events based on preconfigured criteria. These automated retrying of events will eliminate or reduce the need for manual interventions.

4.3.3 *For Data Management, provide an overview of the major capabilities/features available as defined in the section on page 25 of the RFP.*

Data management strategies to ensure the DW and DR systems support the loading and processing of operational data and provide analytical information that drives tactical and strategic decision-making by the end user.

Operation Data Store

The Operational Data Store will be created as a copy of the VCIJIS 1.0 Data Store. As the solution is rolled-out for production use, it will receive data from the following sources:

- a- The VCIJIS 1.0 – Updates from the legacy system/database will be received in the VCIJIS 2.0 Data Store.
- b- The Integration Platform Services – New data and updates will be received from the various services configured in the Integration Platform. Transactions resulting from data exchanges are samples of these types of new data and updates.

Data Warehouse

The Data Warehouse will be created as a separate data repository to support reporting and information analytics. The Data Warehouse will receive data from the following sources:

- a- External data sources – New data and updates will be received from the external data sources via ETL. Loading data into the Data Warehouse can be controlled and managed by carefully scheduling the frequency and the max volume of updates from the external data sources. Data types and other factors will also be considered when planning the ETL process.

- b- Operational Data Store – Depending on the type of data and other factors that will be discussed with the County, new data and updates from the Operational Data Store may be loaded into the Data Warehouse using special ETL processes.

For Administration, provide an overview of the major capabilities/features available as defined in the section on page 25 of the RFP.

Administration of the DW or DR will include the following tasks: managing jobs, monitoring, scheduling, development of scripts and transform processes. These requirements are focused on the ability to access the tools and system information to manage the required environments.

These requirements are focused on the ability to access the tools and system information. The proposed solution addresses these requirements by providing standard tools that the County IT staff are already familiar with. These tools are mainly SQL Server Management Studio, SQL Server Integration Services, SQL Server Reporting Services and Power BI (Report Server).

- 4.3.4 *For Connectivity/Adaptors, provide an overview of the major capabilities/features available as defined in the section on page 25 of the RFP.*

Connectivity and adaptors focus on the ability to access and apply data quality rules to a wide range of data sources, including both on-premises and in the cloud.

When applicable, Quartech will use pre-built connectors that have been developed and are in use by other justice clients. Additionally, as needed, Logic Apps provide various pre-built connectors for other Databases or systems. The connectors will be used to connect/interact with various internal and external systems. Custom connectors will be used for scenarios where pre-built connectors are not available.

- 4.3.5 *For Analysis Tools and Data Analytics, provide an overview of the major capabilities/features available as defined in the section on page 25 of the RFP.*

The tools to complete analysis of data, by business and IT users, with insight into the quality of data and help to identify and understand data quality issues, patterns, and detailed analysis.

The proposed solution will include SQL Server Reporting Service with access to the Data Warehouse, Data Store, and the Central Person Registry. This will enable business analysts and reporting experts to configure reports and detailed analysis. Power BI will be available to Ventura County analysts to further enhance the reporting and discover patterns and historical trends using the data warehouse as their data source.

SQL Server Reporting Services (SSRS) and Power BI are two tools that can be used for data analytics and reporting depending on specific County use cases. An overview of their major capabilities and features include:

SQL Server Reporting Services (SSRS):

- Reporting: SSRS enables you to create and publish a wide variety of reports, including tabular, matrix, and chart reports, as well as drill-through and drill-down reports.
- Data Sources: SSRS supports a wide range of data sources, including relational databases, Analysis Services, and other data sources like Oracle, ODBC, and OLE DB.
- Report Builder: SSRS includes a Report Builder tool that allows users to create and modify reports without having to use Visual Studio or any other programming tools.

- Customization: SSRS provides a number of customization options, including the ability to add custom code to your reports, as well as the ability to add custom branding and themes.
- Security: SSRS offers role-based security features that allow administrators to control user access to reports and report folders.

Power BI:

- Data Visualization: Power BI provides a wide range of visualization options, including charts, maps, gauges, and cards. These visualizations can be customized and filtered to meet specific business needs.
- Data Modeling: Power BI provides a number of tools to help you prepare and transform your data, including Power Query and Power Pivot. These tools enable you to clean and shape your data so that it can be easily analyzed.
- Dashboards: Power BI enables you to create interactive dashboards that allow users to drill down into specific data points and view data from different perspectives.
- Collaboration: Power BI includes features that enable users to collaborate on reports and dashboards, including the ability to share reports with others, add comments and annotations, and create shared workspaces.
- Mobile Access: Power BI provides mobile apps for iOS, Android, and Windows devices that allow users to access and interact with reports and dashboards on the go.

Both SSRS and Power BI provide robust capabilities for data analytics and reporting, with SSRS focused on traditional enterprise reporting and Power BI focused on self-service analytics and visualization.

4.3.6 *For Data Cleansing, provide an overview of the major capabilities/features available as defined in the section on page 25 of the RFP.*

Cleansing data before loading it into a data warehouse is an essential step to ensure the accuracy, completeness, and consistency of the data.

Data Cleansing Approach

To promote data integrity in the solution, Quartech will use a standard approach to data cleansing for each source system:

1. Determine which data from each data source will need to be captured.
2. Gather a sample of the data to be cleaned.
3. Perform an initial assessment of the data to identify any obvious issues, such as missing values, outliers, or formatting inconsistencies.
4. Develop a Data Cleansing Plan to address issues identified in step 2, including specific actions to take and the tools or software to be used.
5. Begin cleaning the data by implementing the plan developed in step 3. This may include tasks such as filling in missing values, removing outliers, and standardizing formatting.
6. Check the data for errors and inconsistencies and make any necessary adjustments to the plan as needed.
7. Once the data has been cleaned, data subject matter experts perform a final assessment to ensure that all issues have been addressed and that the data is accurate and ready for use.

8. Document the entire process including the data source, cleaning process and any issues that were found and addressed.
9. Capture cleaned data into appropriate staging table.

In addition to the built-in capabilities of SQL Server Integration and Data Quality Services, Quartech will use Power BI tools for cleansing and transforming data. Some of the key tools that Power BI uses to cleanse data are:

- **Power Query Editor:** Power Query Editor is a data transformation and cleansing tool that allows users to perform data cleaning tasks such as removing duplicates, filtering data, splitting columns, and changing data types. It also allows users to merge and append data from multiple sources and perform calculations on the data.
- **Data profiling:** Power BI's data profiling tool provides an overview of the quality of the data, including the data type, the number of missing values, and the distribution of values. This tool helps users to identify data quality issues that need to be addressed before loading the data into a data warehouse.
- **Quick Insights:** Power BI's Quick Insights tool uses machine learning algorithms to analyze data and generate visualizations and insights automatically. It can help users to identify patterns and trends in the data that may not be immediately apparent.
- **Data cleansing extensions:** Power BI also offers data cleansing extensions that can be used to clean and transform data from different sources. For example, the Fuzzy Matching extension can be used to match similar records that have slightly different values, such as misspellings or abbreviations.

4.3.7 *For Rules Engine & Data Validation, provide an overview of the major capabilities/features available as defined in the section on page 26 of the RFP.*

Ability to integrate externally sourced data to improve completeness and add value through the process of testing the data within the DW. Additionally, the rules engine will support the decision process based on indicators calculated based on a configured business rule.

SQL Server Master Data Services (SSMDS) enables management of a master set of the County's data. You can organize the data into models, create rules for updating the data, and control who updates the data. In addition to the capabilities in SSMDS, Quartech may also use Power BI's rules engine and data validation capabilities.

Power BI also provides several capabilities and features for rules engine and data validation. Some of the major capabilities and features used by Power BI for rules engine and data validation are:

- **Data Profiling:** Power BI's data profiling tool provides an overview of the quality of the data, including data type, number of missing values, and distribution of values. It can be used to identify data quality issues that need to be addressed before loading the data into a data warehouse.
- **Data Validation:** Power BI allows users to create custom validation rules for data. These rules can be used to ensure that the data meets specific criteria, such as data type, value range, or format.

- **Conditional Formatting:** Power BI allows users to apply conditional formatting to data based on specific criteria. This can be used to highlight data that meets certain conditions, making it easier to identify data that may require further analysis.
- **Quick Insights:** Power BI's Quick Insights tool uses machine learning algorithms to analyze data and generate visualizations and insights automatically. This can be used to identify patterns and trends in the data that may not be immediately apparent, helping users to identify potential data quality issues.
- **Error Reporting:** Power BI allows users to create custom error messages for data validation errors. This can be used to provide detailed information about the nature of the error, making it easier to diagnose and correct data quality issues.

By using these capabilities and features, Power BI helps users ensure the accuracy and consistency of their data, making it easier to analyze and draw insights from the data.

4.3.8 *For Metadata Management, provide an overview of the major capabilities/features available as defined in the section on page 26 of the RFP.*

Ability to capture, reconcile and interoperate metadata relating to the data quality process and DW content while tracking changes in the source systems.

Metadata management is an essential component of any data management system. Power BI provides several capabilities and features for metadata management. Some of the major capabilities and features available in Power BI for metadata management that Quartech may use include:

- **Data Catalog:** Power BI's Data Catalog allows users to create and manage metadata for their data sources. This can include information such as data lineage, data source owners, and data quality metrics.
- **Data Lineage:** Power BI's Data Lineage capabilities allow users to track the flow of data from its source to its destination. This can be used to understand how data is transformed and used within an organization, and to identify potential issues or areas for improvement.
- **Impact Analysis:** Power BI's Impact Analysis capabilities allow users to understand the impact of changes to their data sources, such as changes to data structures or data quality rules. This can be used to assess the potential impact of these changes on downstream reports and analyses.
- **Custom Metadata:** Power BI allows users to create and manage custom metadata for their data sources. This can include user-defined tags, descriptions, and other metadata that can be used to better understand and manage the data.
- **Data Quality Metrics:** Power BI's Data Quality capabilities allow users to define and track data quality metrics for their data sources. This can include metrics such as completeness, accuracy, and consistency, which can be used to monitor the quality of the data over time.

4.3.9 *For Architecture and Integration, provide an overview of the major capabilities/features available as defined in the section on page 26 of the RFP.*

The commonality, consistency, and interoperability between the various components of the data quality solution-set and the third-party tools.

Quartech has extensive experience implementing regional integration solutions with the proposed components. Their interoperability and compatibility with Microsoft platforms provide flexible architecture for developing agile, durable, and easy to maintain applications. With the proposed architecture and integration components the solution will be able to capture detailed metadata of all interactions, data exchanges, updates to critical information and more. This extensive collection of information will be present in the data warehouse and will be evident in the reports and search results.

More specifically, Logic Apps, SQL, SQL Server Reporting Services (SSRS), and Power BI include powerful tools for data integration, management, and analysis. To promote commonality, consistency, and interoperability between these tools, Quartech may leverage several capabilities and features available, including:

- **Data Integration and Connectivity:** Azure services and Logic Apps provides a suite of integration tools to connect disparate systems and data sources. It supports a wide range of protocols, such as HTTP, FTP, JDBC, and JMS, and allows for seamless integration between SQL, SSRS, and Power BI.
- **Data Management and Modeling:** SQL provides a robust set of tools for data management and modeling, including support for complex queries, data warehousing, and data mining. This enables users to easily manipulate and transform data in a consistent and standardized manner.
- **Reporting and Analytics:** SSRS and Power BI both provide powerful reporting and analytics capabilities that enable users to visualize data and gain insights from it. SSRS allows for traditional enterprise reporting, while Power BI enables self-service analytics and visualization.
- **Security and Access Control:** All of these tools provide comprehensive security and access control features to ensure data privacy and protection. They support role-based access control and data encryption to prevent unauthorized access and ensure data integrity.
- **Extensibility and Customization:** Azure services, SQL, SSRS, and Power BI all provide extensibility and customization options to meet specific business needs. They support custom code development, custom branding, and theme customization to create a consistent and unified user experience across all components.

By leveraging these capabilities and features, Quartech can support the County's goals to ensure commonality, consistency, and interoperability between their various Azure cloud services, SQL, SSRS, and Power BI implementations, and create a unified data management and analytics environment that supports the County's implementation of VCIJS 2.0.

VCIJS 2.0 Technical Requirements

- 4.4.1 *For Accessibility, describe Integration Architecture ability to interact and perform specific business functions such as interaction with browsers, kiosks, and mobile devices, as well as any additional accessibility constraints.*

The integration architecture provides the ability to capture and receive data from multiple internal and external sources and store the information in a format and manner that can be

used by the County staff and partner agencies. The Portal will be the access point to the VCIJS 2.0 data. The proposed portal will be developed following “responsive web design” principles. Reports, dashboards, and portal search options available for desktop browsers will also be available and accessible by tablet devices, mobile devices, or devices operating as kiosks with browsing capabilities.

4.4.2 *For Auditability, describe the solution of an administrator portal to search, view, and manage the integration audit logs, and describe its built-in capability to include, but not limited to the features in the section on page 27 of the RFP.*

The Offeror shall describe the solution of an administrator portal to search, view and manage the integration audit logs, and describe the solution’s built-in capability to include but not limited to the following: · Managing system and application audit logs across all states (active, archived, etc.) · Backup / Restore solution audit logs · Configuring administrator defined alert messages.

There will be several administrative tools to view and monitor VCIJS 2.0 event logs and audit tables.

- a- Managing system and application audit logs across all states (active, archived, etc.) – Our solution will include a custom audit log that tracks all data exchanges, ETL Outcomes, and portal queries. Predefined events and especial statuses for these transactions will be configured to trigger alerts or notifications. We will work with the County to select the event types to be logged and be included in the ETL where transactions will be recorded (via ETL) in the Data Warehouse for further reporting or dashboarding.
- b- Backup / Restore solution audit logs - The backup/restore tasks will be performed using existing County IT tools, and we will work with the County IT to identify opportunities to include the audit logs from the County tools in the dashboards and event notification services.
- c- Configuring administrator defined alert messages – The primary audit logs for day-to-day transactions will be the customized audit logs stored in the Operational Data Store (separate databases and customized tables). Administrative alert messages will be configured using the Integration Platform Services. These services are flexible executions of events and will be used to tweak or modify alerts and notifications.

4.4.3 *For Configuration Management, describe your approach to developing and maintaining documentation that is compatible with integration solutions, configuration, configuration changes, and design that includes the features listed in the section on page 27 of the RFP.*

The Offeror shall provide a methodology/approach for developing and maintaining configuration management documentation. Describe your approach to developing and maintaining documentation that is compatible with integration solutions, configuration, configuration changes and design including: · Configuration Change Management · Production Support Services catalog and process documentation · Integration platform and Shared Services system architecture documents · Troubleshooting documentation · Training and installation documentation.

Quartech’s approach to managing the integrity of the state of the environment and the applications that run on it is to include configuration management and documentation as

integral tasks, assigned to the lead individuals, and include them in our project schedule. We plan on using a DevOps environment and a SharePoint (or MS TEAMS) for the following:

- **Configuration Change Management** – We will create special tasks to document the “baseline” configuration settings, store the artifacts in SharePoint, and track changes for all future edits. All changes will be subject to “Change Requests” and “Change Management” process prior to implementation of proposed changes to ensure the integrity and consistency of the environments. For every change request, we will require the details of proposed changes, and will incorporate the changes in the master copy of the documentation.
- **Production Support Services catalog and process documentation** – We will work with the County to develop a support service catalogue that will address the needs of the users and administrators of the solution and will define the reporting and triage process and priorities. Self-service procedures and automation of certain support services will be implemented and documented accordingly. The catalogue and the support process will be stored as a “Wiki” in DevOps. Help files and useful instructions will be included in the Portal for ease of access and use.
- **Integration platform and Shared Services system architecture documents** – As we implement the solution, the “as built” diagrams and details of the system architecture will be verified and published in DevOps (Wiki) and in a SharePoint site. Access to these documents for the purpose of edits or updates will be restricted to maintaining the integrity of the system architecture documentation.
- **Troubleshooting documentation** – Troubleshooting documentation and “frequently asked questions” are often closely related to the support services catalogue. We propose using a “Wiki” in DevOps and a SharePoint site to document and maintain the troubleshooting documents. Documents will be accessible to the County IT staff and the project support team.
- **Training and installation documentation** – We will create Installation documentation as reference material and knowledge transfer resource. The documents will be maintained in SharePoint. Training (knowledge transfer) sessions will be recorded where appropriate and will be stored with the written documentation in SharePoint.

4.4.4 *For Environments, provide a development methodology and approach; tools and practices for managing source code and DevOps environment(s); approach and tools for testing, regression testing and approach to automation testing harnesses; process for configuration, build and release into production; and process and tools for vulnerability, security testing and verifying the code base.*

The County anticipates three environments for the Integration Architecture (Development, Test, Production). The following approach must be provided by the Offeror in their response: · Offeror’s development methodology and approach · Offeror’s tools and practices for managing source code and DevOps environment(s) · Offeror’s approach and tools for testing, regression testing and approach to automation testing harnesses. · Offeror’s process for configuration, build and release into production. · Offeror’s process and tools for vulnerability, security testing and verifying the code base. Additionally, the Offeror shall provide a description of their system hosting service technology. Specifically, describe the technology utilized in the host data center including: · Primary server types and operating systems used for database and applications ·

Virtualization · Cloud Native services and tools · Primary data storage facilities · Internal facility network connectivity · Firewalls and other security tools · Disaster failover and recovery capabilities · Other distinguishing characteristics · CJIS Compliant Government Cloud standards.

Offeror's development methodology and approach

Quartech uses Agile development methodology. We use Work items, Boards and Sprints to manage and track tasks and their progress. Our project team will conduct daily scrums and will collaborate with client project team using DevOps tools and SharePoint. If Ventura County uses other similar tools and prefers to manage the development using County custom tools and platform, we will comply.

Offeror's tools and practices for managing source code and DevOps environment(s)

Quartech uses Azure DevOps Repos and Pipelines to manage source code and deployments. Deployments are normally performed with an approval policy following strict Change Management practices.

Offeror's approach and tools for testing, regression testing and approach to automation testing harnesses.

Quartech uses DevOps to create testing scenarios and cycle, manage and track testing results and progress. We use Test Driven Development (TDD) to ensure the development produces solutions with the expected processing outcome. Acceptance Test Driven Development (ATDD) is used to gage the success of the development from the user/owner perspective. We dedicate time to develop "Test Scripts" and verify them with the client business staff, then use the test scripts when conducting integration and User Acceptance Testing (UAT).

Automated testing is employed for ETLs and batch processing where appropriate. The automated tests also follow scripts previously verified by the stakeholders.

We develop testing harnesses for simulations of external systems and partner applications. Testing harnesses are used mainly for unit testing and verifying integration functionality.

Offeror's process for configuration, build and release into production.

Quartech will configure a baseline for the solution platform and applications including utilities and tools. These baselines will be documented and backed-up. As we progress in the development of services and features, we may make tweaks and changes in the configuration following Change Management practices. The latest configurations will be documented, and the system will be backed-up to replace the previous baseline images, backups, and snapshots. Code sources and scripts will be subject to versioning or branching as we create builds and release iterations. A fully tested build will be released to Test and Production environments while the previous build is stored as backup. When defects or undesirable conditions are reported, the Test environment will be used to reproduce the defects and the latest build will be fixed and patched following Change Management practices. Verified successful patches will be released to the production environment.

Offeror's process and tools for vulnerability, security testing and verifying the code base. Additionally, the Offeror shall provide a description of their system hosting service technology. Specifically, describe the technology utilized in the host data center including: · Primary server types and operating systems used for database and applications · Virtualization · Cloud Native

services and tools · Primary data storage facilities · Internal facility network connectivity · Firewalls and other security tools · Disaster failover and recovery capabilities · Other distinguishing characteristics · CJIS Compliant Government Cloud standards.

Additionally, provide a description of your system hosting service technology, describing the technology utilized in the host data center, including the features listed in the section on pages 27-28 of the RFP.

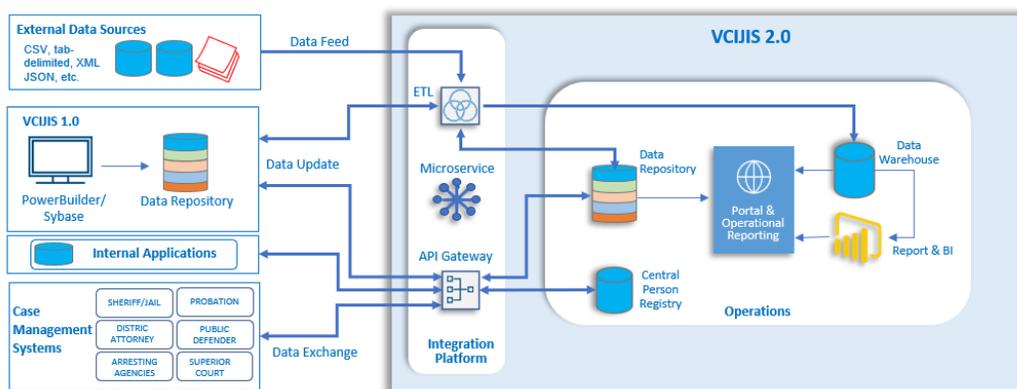
Quartech recommends hosting the solution in the Ventura County Cloud environment. We will work with County IT to identify tools and technologies with regards to security, vulnerability, and access control.

4.4.5 For Solution Architecture, provide an overview and description of the Integration Architecture and the components of the solution, including those listed in the section on page 28 of the RFP.

The Offeror must provide an overview and description of the Integration Architecture and the components of the solution. The following components must be described: · Solution architecture and layers · Databases · Major integration components and utilities · Application architecture and components · Client portal architecture · Data Warehouse including reporting and analytics environment and tools · Hosting and network architecture · Security architecture · Any third-party content or application integration architecture or components, where such content or applications are included or required to be part of the proposed Solution).

Quartech has implemented an integration solution for the County of San Mateo that is very similar to VCIJIS 2.0 solution. Our experience with the San Mateo Criminal Justice Integration (CJI) project has helped us propose an agile and practical solution that will address all the VCIJIS Integration Platform requirements including Portal and Data Warehouse requirements in RFP #6129.

The following diagram is an overview of the proposed solution.



VCIJIS 2.0 solution will be a collection of several well-orchestrated and events driven microservices, secured data stores, managed APIs, responsive web pages, robust rules, and agile services that will function together as a unified system.

The following section provides additional details of this collection.

Solution architecture and layers – Security and integrity of the data is at the center of the solution architecture without compromising adequate access to information and the overall performance of the integration solution.

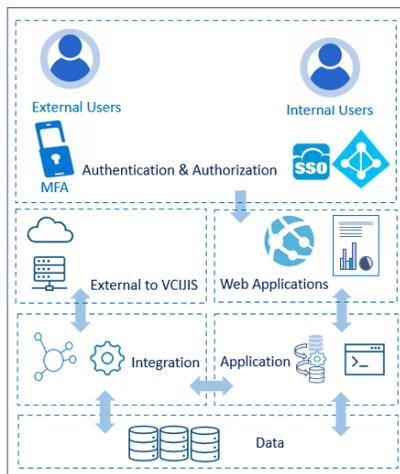
The user authentication layer will be implemented to permit user access to information with strict rules and authorization policies.

Users’ access to information will be possible only through a secure web application layer.

The web application will connect to the data through a layer of backend applications and utilities, APIs and scripts and services.

The Integration Platform and utility layer will prevent external access to VCIJS internal layers; however, the integration services will be configured to connect to internal and external data sources and applications to harvest data and store it in the data layer.

The data will remain encrypted at rest and protected from direct user access.



Databases – For the Operational Data Repository, Central Person Registry, and reporting Data Warehouse we propose the SQL Server technology. In Azure cloud, the databases will be hosted on SQL server in Virtual Machines and Azure SQL Managed Instance (PaaS).

Major integration components and utilities – Azure services and Logic Apps will provide the primary integration capabilities with an API Gateway and microservices to orchestrate events, execute commands and scripts, run services, and track all integration transactions.

Microsoft SQL Server Integration Server services will be used to develop solutions for data extract, data cleansing and transformation and data load (ETL).

Application architecture and components – Addressed in the previous section.

Client portal architecture - We build modern web portals using layered architecture (Application Core, Infrastructure/Data, User Interface). We reuse common low-level functionality throughout the portal application. By developing layered architecture, we enforce restrictions on layers and restrict their communication based on functionality and need. With this architecture we update or replace layers without impacting the entire portal at once.

In Ventura County, Quartech will use its proprietary .Net Accelerator, developed for Azure, and quickly configure and build the VCIJIS 2.0 portal to address the County requirements.

Data Warehouse including reporting and analytics environment and tools - The Data Warehouse will be managed using Microsoft SQL Server and the Management Studio. We will install SQL Server Reporting Service and configure the server to use the Data Warehouse for reporting purposes. We will develop an ETL project to extract data from internal and external data sources, including the new Data Store. The ETL packages will transform the data and load the data into Data Warehouse.

We will develop reports and deploy them to the SQL Report server. The reports will be available to users via the portal.

We recognize that the VCIJIS 2.0 solution will eventually include Power BI reports to better analyze and report the information stored in the Data Warehouse. The number of report publishers and viewers would need to be taken into considerations before deciding on the type and number of licenses and Power Bi implementation options. Other factors will also influence the licensing options such as budget, capacity, etc. (Premium license per capacity and SQL Enterprise with Software Assurance might be better choices based on County's use). The County will be able to assess the needs and select one or more licensing options in the future phases.

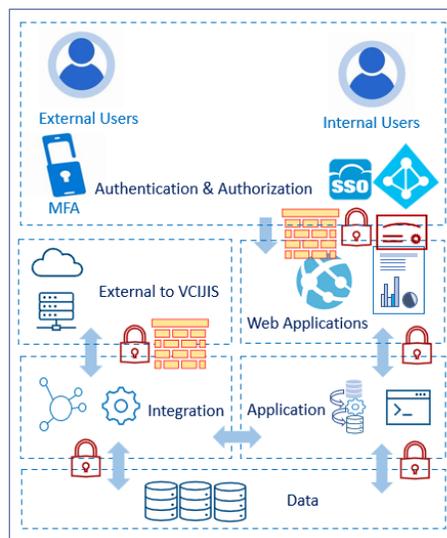
Hosting and network architecture – We propose hosting VCIJIS 2.0 in the Ventura County Cloud environment. We will work with County IT to create secure VLANs and create development, testing and production environments. Storage, Virtual Machines, and services will be configured in compliance with the County policies, best practices, and budgetary constraints.

Security architecture

Firewall - The Portal applications and the Integration APIs and web services are exposed to the internet (or a Countywide network), therefore protecting the portal from unwanted access and unauthorized use is critical. Access to the portal and the integration end points will be restricted by configuring firewall rules and minimizing exposure to the “outside”.

Multifactor Authentication and SSO - Only users with valid accounts and adequate authorization will be able to login to the portal. Internal County users will be authenticated using County Identity providing systems (AD and an IdP such as OKTA), while external users will be subject to Multifactor Authentication.

Security Certificate and Encryption- The Portal and Integration end points will be secured with security certificates and all contacts, data exchanges and data streaming through client systems, browsers, and applications will be encrypted (HTTPS).



The Portal application layer(s) that need to communicate with the backend services will be configured to use predefined service accounts that can execute commands and access data.

Any third-party content or application integration architecture or components, where such content or applications are included or required to be part of the proposed Solution – No third-party content or application integration architecture is required. The Azure services have been described in previous sections.

4.4.6 For User Authentication, describe your ability to provide the County-required user authentication features shown in the section on page 28 of the RFP.

The County requires the Integration Architecture to support these key user authentication features: · Two factor authentication · Role based security · CJIS compliant security controls.

User Authentication features include:

- Two factor authentication - Our proposed integration architecture supports Multifactor Authentication (Cloud and local MFA implementation).
- Role based security – Our proposed integration platform and the portal support and enforce role-based security. Active Directory User groups may form the bases for role-based security when accessing the platform and the portal internally. Single Sign On can be configured for accounts managed in the County Active Directory. For external users (without an account in the County Active Directory), role-based security will be configured using criteria that the County may provide. MFA will be implemented for all external users upon logging in.
- CJIS compliant security controls – Our solution supports implementation of security controls for compliancy with CJIS policies. Enforcing password history, password complexity, account lockout policies, Multifactor Authentication, IP Restrictions, and other controls the County may propose.

VCIJIS 2.0 Security Requirements

4.5.1 Provide an overview of the major capabilities/features available in this area, providing examples of experience complying with State CLETS and FBI CJIS security specifications. Additionally, describe experience complying with federal, state, and/or county specifications in providing public safety systems CLETS and FBI CJIS security compliance.

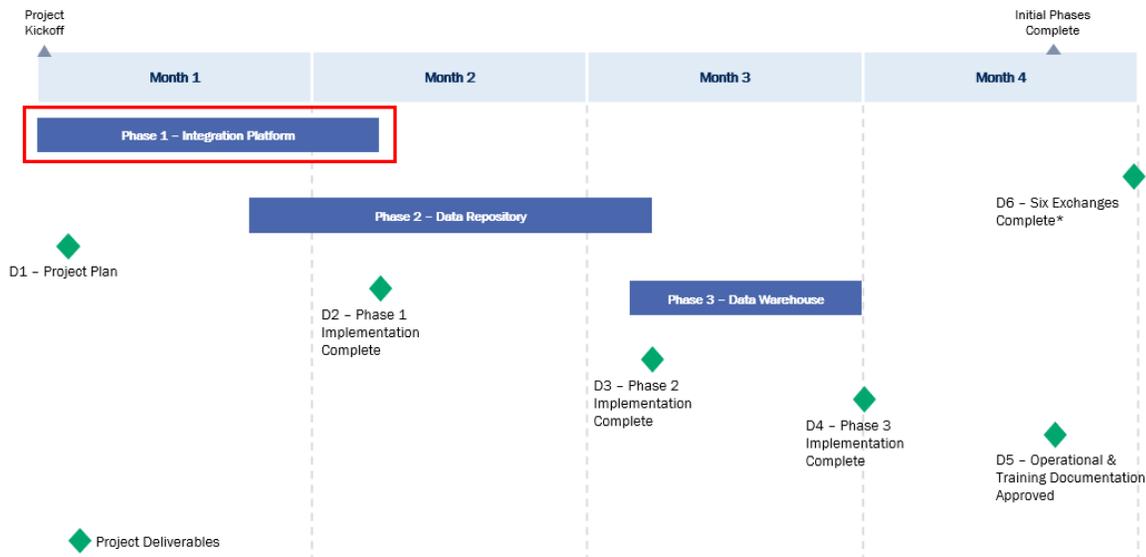
Our team members proposed for Ventura County VCIJIS project have extensive experience working with several California local, county, and state law enforcement agencies (County of San Mateo, Los Angeles Sheriff’s Department, Los Angeles Superior Courts, Los Angeles Police Department, CA Dept. of Justice). These engagements have required our team members to successfully pass background checks that have used CLETS and FBI CJIS awareness and training certification. Additionally, our solutions have had to adhere to CJIS security requirements.

VCIJIS 2.0 Implementation Requirements

4.6.1 For Project Planning and Management, provide a high-level project schedule for the implementation and operation of the proposed Integration Architecture system.

A high-level project schedule is provided below.

VCIJIS 2.0 AZURE INTEGRATION PLATFORM GANTT CHART



4.6.2 For Knowledge Transfer, provide an overview of an approach to training and KT.

Quartech has extensive experience planning and delivering training programs for large complex system implementation projects. Our implementation and training specialists are continuously adapting our approach to include new and innovative methods and tools for delivering training and knowledge transfer programs, particularly for new system implementations.

We know that effective training and support documentation will be instrumental in defusing user resistance to change, improving skill levels, increasing office and staff comfort and acceptance levels; and contributing to the overall success of the project.

Our standard training approach for a successful “Training Campaign” is composed of the following:



Training Needs Assessment

The Training Needs Assessment is the foundation of our “Training Campaign”. We will conduct sessions with key stakeholders and project representatives that include all areas of operational and technical preparedness to determine the full spectrum of business and technical learning needs.

We will start by working collaboratively with the County to confirm the training needs, ensure alignment, and ultimately provide employees with the skills and competencies needed to effectively use and support the solution. The assessment ensures training needs encompass both the new system and any new/changed business processes that the County identifies.

Training Program Development

Together with the County, we will establish a training program to support all aspects of training for the successful implementation of the solution.

Quartech will produce a Training Plan that includes scope, objectives, approach, and critical success factors.

Training Program Delivery

Our team will deliver two types of training to meet the training requirements identified by the County for implementation and future needs.

Train-the-Trainer

Our Train-the-Trainer model for the training resources provides designated County resources with coaching and guidance on how to train others to use and support of the solution. The advantage of this approach is a sustainable training platform that can continue in-person training once the project is completed.

System Administrator Training

System Administrator Training provides the tools and knowledge to support security, permissions, issue, and resolution activities as they arise.

The training of the technical staff serves as part of the transition of the solution to the County for business use and operations. This technical training will serve as the fundamental component of our knowledge transfer approach. It is our goal that once the project is over, County resources will be fully competent in both the technical and business functionality of the solution.

- 4.6.3 *For System Documentation, document the steps to configure the environments and install the Integration Platform software. The Integration Server, and the components proposed for the Integration Platform are well documented. SoftwareAG has published detailed installation and configuration guides. We recommend maintaining these guides in the County as reference material.*

Our approach to documenting the Integration Platform goes beyond the vendor's published documentation. We capture the installation and configuration screens that are relevant to the client environments and highlight the importance of selecting unique values and settings where they apply.

We use MS Word to create our documentation. Before every installation, we verify the system requirements and capture the verifications in our documentation. We store the setup package or the setup image in the server and a client provided storage and include the path in the document. We begin with one environment, usually the development environment, create our documentation, then verify the documentation in the subsequent installation and configuration in the TEST and Production environments. We include a list of server names, IP addresses, storage folders and all configuration settings for each environment. The documentation will be very detailed and can be used by trained professionals to reinstall and configure the environment.

- 4.6.4 *For Solution Hosting, which is optional, propose any Hosted Services that you believe would help the County to effectively implement, operate, or use the proposed system. The County prefers an Offeror-hosted cloud platform; however, the County will also consider proposals utilizing the County's cloud as a platform.*

Although Quartech currently has an Azure Government Cloud subscription and are hosting client applications in Azure, after reviewing the Ventura County requirements and assessing the need to use the current legacy systems until all departments are migrated to their proprietary case management systems, we recommend that hosting the new VCIJIS systems in the County Cloud is a far better and more efficient choice for the County. We believe addressing the initial challenges of implementing a new regional integration and reporting solution and the onboarding of various departments and user groups to a new communication model is best addressed in a County-hosted environment. A decision to migrate the VCIJIS 2.0 to our Azure Government Cloud can be made when many of the current assumptions are verified in an operational model.

4.6.5 *For Value-Added Services, which is optional, propose any value-added services you believe would help the County to effectively implement, operate, or use the proposed system, which must be directly relevant to the RFP.*

We have proposed Quartech’s .Net Accelerator as the platform for the VCIJIS Portal implementation. This platform is developed for Azure, and it addresses common core requirements for the County portal implementation. The accelerator includes some administration and reporting features out of the box. This value-added platform is provided to the County free of cost (no licensing fees) and will help reduce the implementation and configuration costs.

As a provider of Systems Integration services for almost 60 years, Quartech also provides a wide array of other relevant, value-added services as shown in the image below:



Integrated Justice

For more than 30 years, we have developed integration solutions and data exchanges between justice agencies. Solutions include webservices, microservices, NIEM compliance, and federated search. We are one of the most experienced solution providers in the Integrated Justice space.



Justice Systems Integration

Our justice practice has a long history of working with the top justice vendor solutions in the market. We have implemented some of the largest offender management and court case management systems in the US.



Change Management (OCM)

As justice organizations continue to embrace new technology solutions and processes, it is important that their resources are prepared for and adapt to the changes. Our Team's three disciplines of Organizational Readiness include: Organizational Change Management, Communications, and Training / Knowledge Transfer.



Business Intelligence

Our dedicated Data & AI practice has been one of the leading data platform solution providers for over 15 years with extensive experience with the Cognos and Microsoft products including: Cognitive Services, Power BI, SQL Server (SSIS, SSRS, SSAS), Cortana Intelligence Suite, SharePoint, Office 365 and Azure Machine Learning.



Managed Services

Our team delivers industry-focused client success by providing consulting, technical, and managed services for the deployment, management, and optimization of next-generation applications & technology. Our justice practice offers a full Application Managed Services (AMS) suite of services that can be tailored to the needs of each client.



Solution Development

Investment in creating a web-based application framework accelerator has enabled our justice practice to develop and implement tailored solutions in an accelerated timeframe utilizing Agile development principles.



REQUEST FOR PROPOSAL #6129

VCIJIS Integration Platform Solution
including Portal and Data Warehouse

Updated Price Proposal with Azure
Services

Quartech Justice Solutions

Date: November 28, 2023



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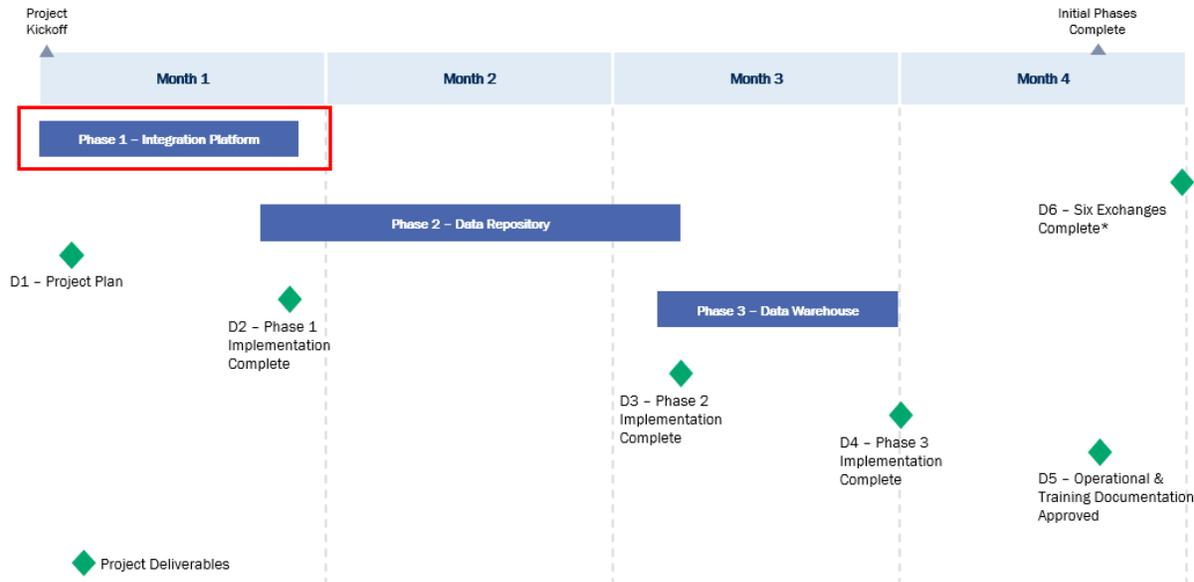
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Integration Platform Assessment

In our initial response we included a middleware platform software that was selected for its integration services and capabilities. Therefore, setting up servers, installing and configuring that middleware software were planned for Phase 1. Highlighted by the red box in the Gantt chart below.

Figure 1. Integration Platform Project Gantt Chart

VCIJIS 2.0 INTEGRATION PLATFORM PROJECT



At the request of the County, the Quartech team completed an assessment to replace the SoftwareAG and webMethods architecture with an Azure integration architecture.

Our updated proposal includes Microsoft Azure integration services and solutions. Given that these services do not require a server infrastructure, most of the configuration of the integration services will be performed during Phase 2, Phase 3 and Phase 4 when updates and exchanges are required.

Phase 1 will include tasks to investigate and plan for the Azure landing zones, Azure subscription configurations, identity management, storage accounts, web app and VNET preparation for the services and solutions that the remaining phases would require.

Azure Integration Architecture

The VCIJIS 2.0 Integration Platform solution will be a collection of several well-orchestrated Azure services, microservices, secured data stores, managed APIs, and robust rules that will function together as a unified integration platform for the County.

Key features and layers within the Azure Integration Architecture, include:

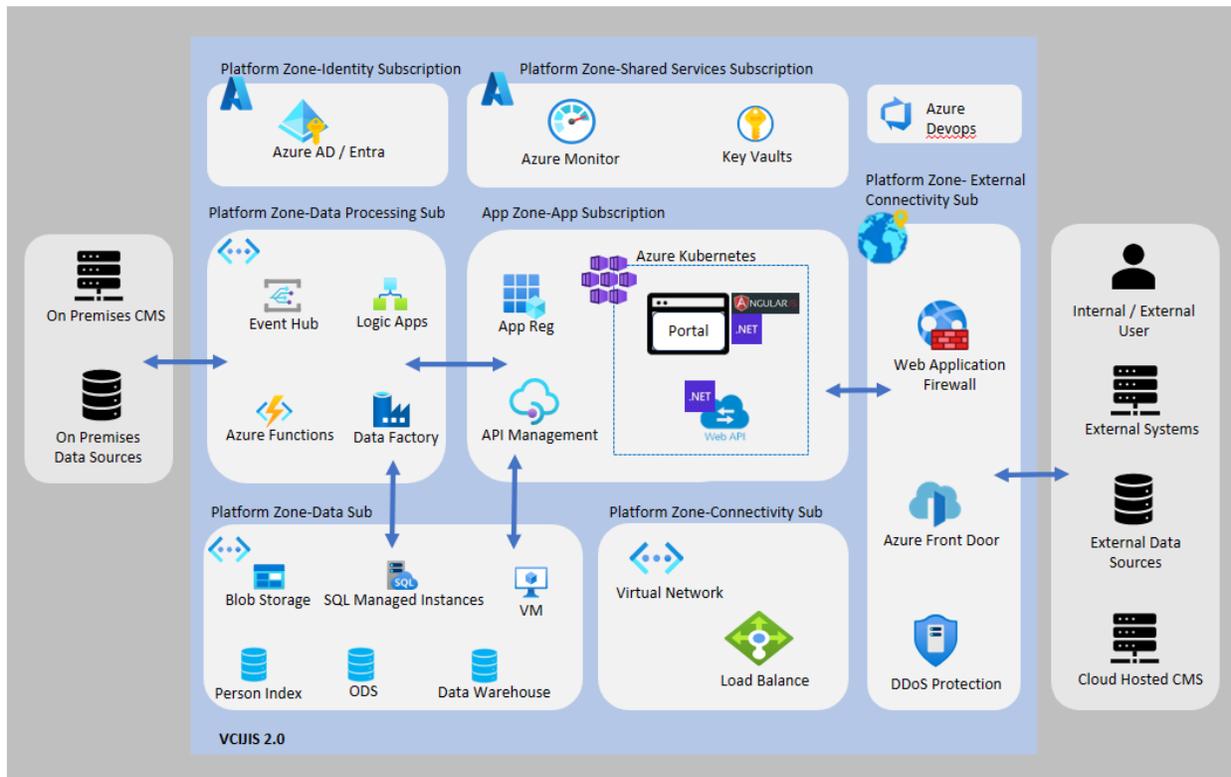
- The user authentication layer will be implemented to permit user access to information with strict rules and authorization policies. Users' access to information will be possible only through a secure web application layer.

- The web application will connect to the data through a layer of backend applications and utilities, APIs and scripts and services.
- The integration and utility layer will prevent external access to VCIJIS internal layers; however, the integration services will be configured to connect to internal and external data sources and applications to harvest data and store it in the data layer.
- The data will remain encrypted at rest and protected from direct user access. For the Operational Data Repository, Central Person Registry, and reporting Data Warehouse we propose the SQL Server technology. In Azure cloud, the databases will be hosted on SQL server in Virtual Machines and Azure SQL Managed Instance (PaaS).
- The solution architecture will ensure security and integrity of the data is at the center of the solution architecture without compromising adequate access to information and the overall performance of the integration solution.

The Quartech assessment also recommends hosting the Azure Integration Architecture in the Ventura County Azure environment.

We will work with County IT to create secure VLANs and create development, testing and production environments. Storage, Virtual Machines, and services will be configured in compliance with the County policies, best practices, and budgetary constraints.

Figure 2. Azure Integration Architecture



Azure Services

Based on the requirements of the RFP, Quartech recommends the following Azure services. Actual services required may be modified based on the data exchanges beyond the initial six data exchanges scoped in the RFP or if, during implementation, the County and Quartech conclude that certain VCIJIS functions can be handled in alternative ways that provide the County with flexibility, cost savings, and/or performance improvements.

Table 1. Azure Integration Architecture Services

Recommended Azure Service	Applicability to VCIJIS 2.0 Environment
Azure Data Factory	After the initial creation of the ODS, all updates from the internal and external data sources to ODS will be designed and executed using Data Factory (define ETLs, create pipelines, define parallel or serial updates, schedule data integration tasks)
Azure SQL	Azure SQL managed instance will be used to host ODS, Person Index and auxiliary databases such as audit logs.
Azure SQL Database	Azure SQL will be used to host the VCIJIS Data Warehouse.
Blob Storage Accounts	The Blob storage will be used for general purpose storage but specifically to store files and artifacts other than relational data.
Logic Apps	<p>The Logic Apps will be used to address the need to:</p> <ul style="list-style-type: none"> - Connect VCIJIS to internal and external services - Created integration workflow with respect to business needs. - Orchestrate VCIJIS integration with internal and external services.
Azure Functions	<p>The Azure Functions (event-driven serverless compute platform) will be used to:</p> <ul style="list-style-type: none"> - Simplify the integration orchestration. - Create custom solutions in support of the VCIJIS integration requirements. - Execute integration based on certain identified events.
Connectors for Logic Apps	Logic Apps provide various pre-built connectors for other Databases or systems. The connectors will be used to connect/interact with various internal and external systems. Custom connectors will be used for scenarios where pre-built connectors are not available.

Recommended Azure Service	Applicability to VCIJIS 2.0 Environment
Azure API Management	The API Management will be used to organize and manage various application interfaces used in the integration and portal solutions.
Azure Event Hubs	The Event Hub will be used for the data streaming requirements for VCIJIS. This will be specifically used for scenarios where data from one internal/external system need to be updated in multiple other systems near-real time
Azure Kubernetes Service (AKS)	AKS will be used to deploy the Portal related components and some of the data transformation processes which will be part of the integration platform.
Virtual Machine (VM), Azure Scale Sets and Azure Managed Disks	One or more Virtual Machines can be used to host a reporting SQL Server. The Portal reporting requirements will be met by provisioning VMs and hosting the reporting database (one per environment). VMs will be used as nodes for the AKS cluster. These VMs will be used by AKS to run the components and processes. Scale sets will maintain the scalability of the nodes in scenarios of spike of traffic through the platform. Azure managed disks will also be used as part of the VM while launching those nodes.
Azure Active Directory External Identities	This will be used for identity management for internal and external users and may be integrated with other security identity providers such as OKTA.
Azure Virtual Network	Virtual Networks will mainly be used to secure and isolate services and applications. All the services will run in isolated networks with private endpoints as needed.
Azure Load Balancer	Load balancer will be used to make the applications fault tolerant. Specifically the portal endpoints will be routed to a load balancer to have a resilient performance of the application which will help determine where to route the traffic based on health of the services.
Azure Firewall	The Azure Firewall will be used to perform security checks, decrypt and encrypt traffic to and from services and endpoints.
Azure Front Door	This will be used to provide the entry point for the application endpoints. This will also provide a CDN capability to provide the edge capability for the applications like Portal. For instances of disaster recovery, this service will be used to perform a failover to secondary services.

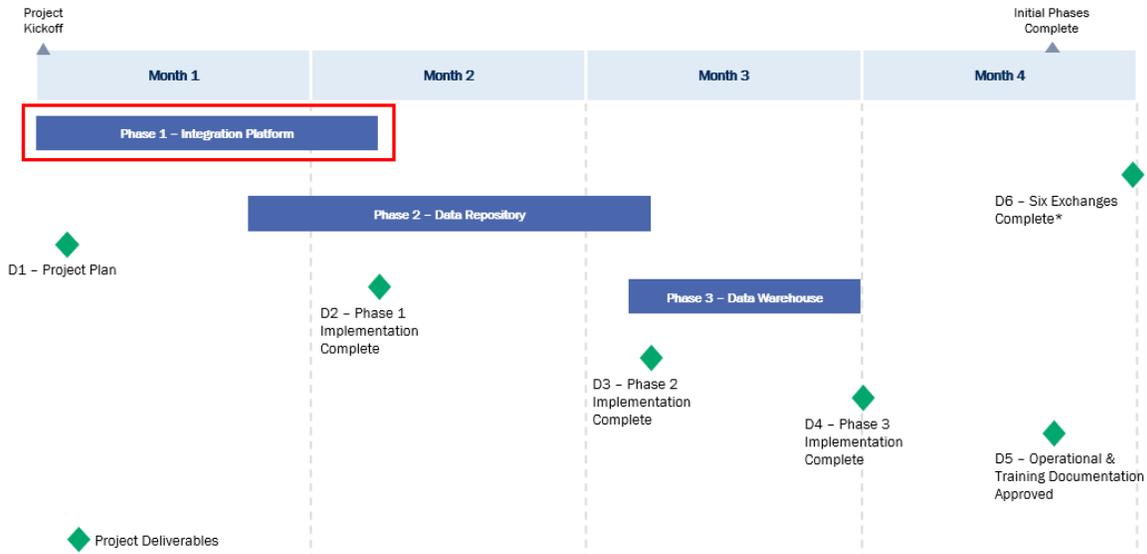
Recommended Azure Service	Applicability to VCIJS 2.0 Environment
Azure DDoS Protection	All external facing endpoints will be protected by DDoS protection service to protect against DDoS attacks and prevent bottleneck of services or stop piling up of billing due to the DDoS attacks.
Azure Repo	All application and infrastructure codes will be stored in an Azure Repo and repositories will be created for different applications and infrastructure modules
Azure DevOps	The Azure DevOps will provide a platform to maintain source code, builds and deployment pipelines and history as well as tools to manage tasks and track progress.
Azure Monitor	The Azure Monitor will be used to collect, analyze, and respond to monitoring data from VCIJS environments.
Azure Alerts	Used to alert users when potentials issues happen in any of the services which are monitored by Azure Monitor
Azure Key Vault	The Key Vault will be used to store accessing secrets for various components and services.

Project Implementation Impact

The change from the webMethods integration platform to an Azure Integration Platform will have minimal impact on the project timeline and effort for Phase 1 of the project. Phase 1 will extend by approximately two weeks to ensure the Azure environments are configured and smoke tested.

Figure 3. Azure Integration Project Gantt Chart

VCIJIS 2.0 AZURE INTEGRATION PLATFORM GANTT CHART



Effort related to Phase 1 will not be materially different from the effort to install the webMethods platform. The installation effort for webMethods will be offset with configuring comment services required for Azure, such as audit logs, retry functionality, notifications, etc.

Changes between the original pricing proposal and the Azure Services pricing proposal are highlighted below:

1. The cost of deliverable D2 - Integration Platform will increase from \$150,000 to \$262,000 due to the additional configuration of baseline integration functions that would have existed within the webMethods application.
2. The Software Pricing section of the pricing table was removed.
3. Given the custom configuration and integration functions the Quartech recommends that the professional services budget increase from 500 hours to 600 hours annually and be budgeted for 3 years.
4. The Optional Software section of the pricing table was removed.
5. The overall pricing proposal increased from \$992,927 to \$1,046,000 for the total cost.

Pricing for the County Azure environment is not included in this pricing proposal.

Updated Pricing Proposal

Table 2. Pricing Proposal Table

Item	Description	Cost
Deliverable Pricing		
D1	Project Management Plan	\$ 130,000
D2	Phase 1 - Integration Platform	\$ 262,000
D3	Phase 2 - Data Repository	\$ 110,000
D4	Phase 3 - Data Warehouse	\$ 95,000
D5	Operational & Training Documentation Delivered	\$ 75,000
D6	Six Exchanges Development Complete	\$ 95,000
	SUBTOTAL	\$ 767,000
Infrastructure Pricing		
	To leverage government pricing and existing security practices, Quartech is recommending the solution be deployed on the County's Azure infrastructure with the County procuring the necessary Azure services directly from Microsoft to leverage Microsoft's government pricing. Quartech will provide the County Azure team with infrastructure recommendations to support the solution.	Microsoft licensing to be provided by County
Support and Enhancement Pricing		
Quartech Professional Services	Recommend 600 hours per year (negotiable) at a blended rate of \$155/hr. Pricing for 3 years of support.	\$ 279,000
Implementation Pricing Summary		
Deliverables, Azure Configuration, Support and Enhancements	TOTAL	\$ 1,046,000

Payment terms are Net 30 Days upon receipt of invoice, in arrears for services rendered. Reimbursement for travel and expenses are to be in accordance with County of Ventura's expense reimbursement policy (Administrative Manual).

Ventura County Non-Employee Information Technology Usage Agreement

Anyone that is not a Ventura County employee (“Non-employee personnel”) who will access (which includes but is not limited to use, maintenance, repair or installation of) Ventura County information technology in the course of their work for Ventura County are required to sign this document before accessing, using, maintaining, repairing or installing any Ventura County information technology system. “Information technology” includes any computer, network, Internet access, electronic mail and voice message systems, facsimile devices, or other electronic systems used by Ventura County.

1. Non-employee personnel have no expectation of privacy in any electronic communications, use of Ventura County property, or Internet access. Ventura County reserves the right to review, audit, or monitor any information technology used by non-employee personnel.
2. Non-employee personnel shall use only accounts authorized by the sponsoring County department.
3. Non-employee personnel may access only those resources for which they are specifically authorized. Any other access is prohibited.
4. Non-employee personnel are personally responsible for safeguarding their account and log-on information. Passwords shall adhere to the following:
 - a. Passwords shall remain confidential.
 - b. Passwords shall be changed at least every 120 days.
 - c. Passwords shall be at least six characters long.
 - d. Systems will be configured to “lock-out” the account after 5 or less incorrect password attempts.
 - e. Passwords shall not contain your user name or any part of your full name.
 - f. Passwords shall never be displayed, printed, or otherwise recorded in an unsecured manner.
5. Non-employee personnel are not permitted to script their user IDs and/or passwords for log-on access.
6. Non-employee personnel are not permitted to allow another person to log-on to any computer utilizing their personal account, nor are they permitted to utilize someone else's account to log-on to a computer. Only the Ventura County sponsoring department can authorize multiple people for use on a single service account.
7. Non-employee personnel may not leave their workstation logged onto the County network while away from their area. Non-employee personnel may elect to lock the workstation rather than logging off when leaving for very short time periods.
8. Non-employee personnel shall maintain a log, left with the sponsoring department, of all software loaded onto any Ventura County computer. The software must have been approved in writing in advance by the sponsoring department.
9. Non-employee personnel shall execute only applications that pertain to their specific contract work.
10. Non-employee personnel shall promptly report log-on problems or any other computer errors to the sponsoring County department.

Ventura County Non-Employee Information Technology Usage Agreement

11. Non-employee personnel shall promptly notify the sponsoring department if they have any reason to suspect a breach of security or potential breach of security.
12. Non-employee personnel shall promptly report anything that they deem to be a security loophole or weakness in the computer network to the sponsoring department.
13. Non-employee personnel shall not install or use any type of encryption device or software on any Ventura County hardware, which has not been approved in writing in advance by the sponsoring County department.
14. Non-employee personnel may not remove any computer hardware, data or software from a Ventura County building for any reason, without prior written approval from the sponsoring County department.
15. Non-employee personnel shall not delete, disable, or bypass any authorized encryption device or anti-virus program installed on Ventura County hardware.
16. Non-employee personnel that request exclusive control over County servers must have the servers reviewed by the Information Technology Services Department Security Group.
17. Non-employee personnel shall not attach any cables or devices to the Ventura County network that would extend the County network to non-employee users..
18. Non-employee personnel may not copy any data and/or software from any Ventura County resource for personal use.
19. Non-employee personnel may not utilize Ventura County computer systems or networks for any of the following reasons:
 - a. Game playing;
 - b. Internet usage or surfing not required for their specific contract work activity;
 - c. Non-related work activity; or
 - d. Any illegal activities, which include but are not limited to creation, download, viewing, storage, copying, or transmission of sexually explicit or sexually oriented materials.
 - e. Downloading of files from non-County resources. If files are needed for specific contract work, the non-employee shall first obtain authorization from the appropriate sponsoring County department.
20. Non-employee personnel are prohibited from intercepting or monitoring network traffic by any means, including the use of network sniffers, unless authorized in writing in advance by the sponsoring County department.
21. Non-employee personnel may not give out any Ventura County computer information to anyone with the sole exception that the non-employee may give other non-employee personnel such information in order to complete authorized tasks and who have signed this agreement. Information includes but is not limited to: IP addresses, security configurations, etc.
22. All data storage media shall be erased or destroyed prior to disposal.



Coronavirus State and Local Fiscal Recovery Funds

Signatures & Certification

1. This attestation is provided to supplement the previous agreement. It does not replace, change, or supersede the previous Contractor Agreement executed between Ventura County (the "Recipient") and Quartech Justice Solutions.
2. I agree to incorporate the following language subject to Title VI and its regulations between the Recipient and the contractors, subcontractors, successors, transferees, and assignees:
The sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits subrecipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement.
3. When requested, I agree to furnish timely reporting and documentation to assist the Recipient with compliance with the "ARPA Guidelines" within the timelines provided and upon the Recipient's written request.
4. I agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
5. When appropriate, I will report each violation to the California Environmental Protection Agency and understand and agree that the California Environmental Protection Agency will, in turn, report each violation as required to assure notification to the Recipient, Treasury, and the appropriate Environmental Protection Agency Regional Office.
6. Quartech Justice Solutions will comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
7. I confirm to the Recipient that Quartech Justice Solutions and its employees and principals are not debarred, suspended, or otherwise excluded from or ineligible for, participation in federal, state, or county government contracts. I certify that Quartech Justice Solutions shall not contract with a subcontractor that is so debarred or suspended.
8. I agree to comply will all applicable federal law, regulations, executive orders, Treasury policies, procedures, and directives. The Federal Government is not a party to this Agreement and is not subject to any obligations or liabilities to the non-Federal entity, Quartech Justice Solutions, or any other party pertaining to any matter resulting from the Agreement.

9. I understand that Quartech Justice Solutions must disclose, in a timely manner, in writing to the Recipient all violations of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the award. I also understand that Quartech Justice Solutions is required to report certain civil, criminal, or administrative proceedings to the System for Award Management (SAM) located at www.sam.gov. I acknowledge that failure to make required disclosures can result in any of the remedies described in 2 CFR §200.338 - "Remedies for noncompliance, including suspension or debarment."

10. Quartech Justice Solutions agrees to provide the Recipient, the California Governor's Office of Emergency Services, Treasury, the Comptroller General of the United States, or any of their authorized representative's access to any books, documents, papers, and records of Quartech Justice Solutions which are directly pertinent to this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions.

11. I understand that financial records, supporting documents, statistical records, and all other non-Federal entity records pertinent to the Federal award must be retained until July 2030.

I certify that I have read the above certification and my statements contained herein are true and correct to the best of my knowledge.

FINANCE LIAISON (SIGNATURE)

TITLE

DATE

FINANCE LIAISON (PRINTED)

ORGANIZATION HEAD (SIGNATURE)

TITLE

DATE

ORGANIZATION HEAD (PRINTED)

Exhibit D

Federal Terms and Conditions

(A) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, if this Agreement meets the definition of "federally assisted construction contract" in 41 CFR Part 60-1.4, the Contractor shall agree as follows:

(1) Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) Contractor will not discharge, or in any other manner discriminate against, any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.

(4) Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

(6) Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the

administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

(B) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) that Contractor shall comply with as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, Contractor is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, Contractor is required to pay wages not less than once a week. The Contractor shall also comply with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

(C) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(D) Rights to Inventions Made Under a Contract or Agreement. If this Agreement involves a Federal award meeting the definition of "funding agreement" under 37 CFR §401.2 (a) and the Contractor wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the Contractor must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

(E) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended— If this Agreement is in excess of \$150,000, Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations shall be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(F) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—If this Agreement exceeds \$100,000, Contractor must file with the County, the certification required by 31 U.S.C. 1352. Each tier certifies to the tier above that Contractor will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Contractor must also disclose to the County any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award.

(G) Federal Grant recipients, subrecipients, contractors and subcontractors shall comply with 2 C.F.R. §200.322, Domestic preferences for procurements.

(H) Federal Grant recipients, subrecipients, contractors and subcontractors shall comply with 2 C.F.R. §200.323, Procurement of recovered materials.

(I) Contracts for more than the federal Simplified Acquisition Threshold (SAT), which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(J) All contracts in excess of the federal Micro-Purchase Threshold (MPT) must address termination for cause and for convenience by the non-federal entity including the manner by which it will be affected and the basis for settlement.

(K) Debarment and Suspension (Executive Orders 12549 and 12689). A contract award must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(L) Federal Grant recipients, subrecipients, contractors and subcontractors shall comply with the provision at Federal Acquisition Regulation (FAR) to implement the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (FY 2019 NDAA) (Pub. L. No. 115-232 [2018]) Section 889 (b)(1) – Prohibition on Contracting with Entities Using Certain Telecommunications and Video Surveillance Services or Equipment.

(M) Contractor shall comply with applicable provisions of Appendix II to Part 200 – Contract Provisions for Non-Federal Entity Contracts Under Federal Awards of the Code of Federal Regulations, <https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200/appendix-Appendix%20II%20to%20Part%20200>.

Quartech Justice Solutions

Authorized Signature

Printed Name

Title

Date