



Independent Review

State Business 2 Business eCommerce Website (B2B)

A Project of the

State of Vermont Department of Liquor and Lottery



**Submitted to the
State of Vermont, Agency of Digital Services
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Final

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1.0 Executive Summary

For all Information Technology (IT) activities more than \$1 million, State of Vermont (State) statute (or at the discretion of the chief information officer [CIO]) requires an Independent Review by the Office of the CIO before the project can begin. The State Agency of Digital Services (ADS) engaged BerryDunn to perform an Independent Review of the State Business 2 Business (B2B) eCommerce Website Project (Project). This Independent Review began on September 5, 2023, and the presentation of findings is tentatively planned for the week of October 23, 2023. The extended timeline for this Independent Review was due to some key State interview participants being unavailable during the originally scheduled interview week.

Currently, the Department of Liquor and Lottery (DLL) requires licensees to place their spirit orders with an 802Spirits agent by phone or in person using either cash, check or fintech.

DLL plans to partner with Provi to implement a B2B module that will provide on-premises licensees with online ordering capabilities, inventory searches with a store locator, comparable items to out-of-stock products, scheduled pickups, the ability to pay with a credit/debit card, obtain certain sized products at a discount, and improve sales forecasting.

This report is based on a single point in time and does not include information on Project progress after September 19, 2023. However, there are updates to each risk included in the Risk Register based on discussion during the presentation of this report. While conducting the Independent Review, BerryDunn identified four risks, with three having either high impact and/or high likelihood of occurrence. This risk is listed in summary form in Section 1.3 and in detail in Attachment 2 – Risk Register.

1.1 Cost Summary

Table 1.1 includes a summary of the Project costs. More detail can be found in Section 5: Acquisition Cost Assessment and Section 10: Impact Analysis on Net Operating Costs.

Table 0.1: Cost Summary

IT Activity Life Cycle	Cost and Funding Source
Total Life Cycle Costs (Five Years)	\$2,709,200
Total Implementation Costs	\$1,100,000
New Annual Operating Costs (Five Years)	\$1,609,200
Current Annual Operating Costs (Five Years)	\$0
Difference Between Current and New Operating Costs (Five Years)	\$1,609,200
Funding Source(s) and Percentage Breakdown of Multiple Sources	100% State

1.2 Disposition of Independent Review Deliverables

Table 1.2 includes a summary of Independent Review findings; more detail is provided in later sections of the report.

Table 0.2: Independent Review Deliverables

Deliverable	Highlights From the Independent Review Include Explanations of Any Significant Concerns
Acquisition Cost Assessment	<p>The proposed solution includes a one-time acquisition cost of \$1,100,000. The majority of acquisition costs on this project are from payments to Provi for implementation, installation, and configuration (totaling \$841,144) and ADS services (e.g., Enterprise Project Management Office [EPMO], Enterprise Architect [EA], and security; totaling \$233,856).</p> <p>Based on research that BerryDunn conducted using GovWin—a government contracting intelligence platform from Deltek—to examine what other state government and other agencies have paid for similar solutions and services. BerryDunn believes the anticipated cost for the new solution is comparable to what peer states agencies have paid for similar systems and those available in the market, although a direct comparison cannot be accurately made given the limited number projects similar in scope.</p>
Technology Architecture and Standards Review	<p>Based on documents reviewed and interviews with Provi and ADS IT staff, BerryDunn learned that the Project will support the State's efforts to improve the licensee ordering experience as well as allow DLL to better predict ordering trends, which will help reduce inventory and out-of-stock items.</p> <p>Provi will maintain off-site backups for the State's data, software, and systems, which is standard for Provi's approach. Provi's infrastructure is entirely virtualized, and provisioning is fully automated. Provi has plans for how to redeploy to another Amazon Web Services (AWS) data center if Provi's primary data center is lost and unrecoverable.</p> <p>BerryDunn learned during its interview with Provi and ADS that Provi's solution will not store financial or personally identifiable information.</p>
Implementation Plan Assessment	<p>Based on documents reviewed and interviews with Project management and Provi, BerryDunn learned that Provi proposed a 7-month implementation plan, with one month for gathering requirements and 6 months for Provi to conduct implementation activities, with both testing and training occurring during the last month of implementation activities. Provi's schedule also includes 3 months for Provi to provide post-implementation support.</p>

Deliverable	Highlights From the Independent Review Include Explanations of Any Significant Concerns
Cost-Benefit Analysis	<p>Given the Project is not intended to replace any systems and DLL has not identified any tangible cost savings in its IT ABC form for anticipated improvements in efficiency, BerryDunn was not able to determine whether the Project would yield benefits that would exceed the anticipated costs. BerryDunn understands the Project intends to support DLL's strategic initiative to make the process and costs for on-premises licensees more efficient and affordable and is not primarily justified by anticipated cost savings for the State.</p>
Impact Analysis on Net Operating Costs	<p>There is a net annual increase in operational costs of \$321,840 after implementation has been completed. There is no anticipated break-even point for the Project.</p>
Analysis of Alternatives	<p>A team of business and IT representatives from VT evaluated and scored pre-defined criteria of the eight bidder's proposals they received. Based on the evaluation scores, the VT representatives recommended Provi as the vendor for the State to contract with. Provi scored the highest or tied for highest score on implementation service, pricing, and (out of the three invited) demonstration.</p> <p>However, BerryDunn notes that Provi responded "no" to the following question from the State's RFP: "Have you implemented the proposed solution for other government entities? If so, tell us who, when, and how that implementation went." It is BerryDunn's opinion that this is a high-risk approach for the State to contract with a vendor that does not have this experience, as meeting state government requirements can pose significant challenges to software vendors that have been successful with private-sector clients. Furthermore, software vendors in this situation will often underestimate the challenges and unique needs of state governments. BerryDunn's opinion that this is a high-risk approach for the State to contract with a vendor that does not have this experience, as meeting state government requirements can pose significant challenges to software vendors that have been successful with private-sector clients. Furthermore, software vendors in this situation will often underestimate the challenges and unique needs of state governments.</p> <p>Furthermore, BerryDunn notes that the costs provided by bidders do not directly correlate to the scores they received in the "Pricing" section of the evaluation, as some bidders will higher quoted prices received higher scores than their lower score competitors. However, BerryDunn was not able to find additional information on how the scoring of this section was completed.</p>

Deliverable	Highlights From the Independent Review Include Explanations of Any Significant Concerns
	BerryDunn also recommends the State consider not allowing bidders that fail either “Acceptance of State Ts&Cs” or “Adherence to Mandatory Requirements” from being considered. This might require the State reconsider its requirements in these areas so that only truly necessary requirements are included and that bidders can provide viable workarounds if they do not meet these requirements.
Security Assessment	At the time BerryDunn conducted this IR, Provi had not provided any architecture or security documentation the State, which would typically describe proposed data classification scheme, define and qualify their risk management program, and provide an overview of their compliance model. While BerryDunn received reassurances from Provi during its interview that these would fulfill the State’s needs, BerryDunn recommends the State require this information be documented, reviewed, and included in the draft contract.

1.3 Risks Identified as High Impact and/or Having a High Likelihood of Occurrence

Table 1.3 provides a summary of each high-impact or high-likelihood risk, including risk probability, impact, and overall rating. A complete Risk Register is included in Attachment 2.

Table 0.3: Project Risk Summaries and Ratings

Risk ID	Risk Description	Risk Likelihood/ Probability	Risk Impact	Overall Risk Rating
#1	The draft contract has related vendor obligations dispersed in various places and described at varying levels of detail.	High	High	High
#3	The draft contract’s one-month period (occurring immediately prior to go-live) might not be enough time to conduct Provi’s testing activities, the State’s testing activities, and end-user training.	High	High	High
#4	Provi has not completed an implementation with a State agency, and there appears to be contract negotiation difficulties between Provi and the State.	High	High	High

1.4 Other Key Issues

BerryDunn did not identify any other key issues.

1.5 Recommendation

Based on the assessment provided in this report, BerryDunn recommends the State not proceed with contract signature until the following occurs:

- The State and Provi understand and sufficiently document—in the contract—Provi’s scope (including deliverables and requirements), the division of roles and responsibilities, and related level of effort between each party.
- The State and Provi understand and sufficiently document—in the contract—how Provi will address Functional and Nonfunctional Requirements marked as “No,” “N/A,” or “Yes” with conflicting comments that indicate Provi might not fully address the requirement. BerryDunn recognizes that adjusting requirements might require the State to republish a modified RFP so that the bidding process is competitive and fair to all bidders. BerryDunn believes it is especially important for the State to solidify requirements in the contract with Provi given the following:
 - Provi’s lack of experience implementing its solutions with other state government agencies
 - Reported challenges the State of Ohio is facing with Provi in the contracting process
 - The relatively low cost of Provi’s proposal compared to other bidders with a similar level of fit with the State’s requirement
 - Difficulties the State has experienced in coming to agreement with Provi during the contract drafting period

On June 21st, BerryDunn received a memorandum from the State detailing its mitigation efforts for the risks BerryDunn identified in Attachment 2. BerryDunn has included this memorandum as Attachment 3 of this report. BerryDunn did not review, opine on, or verify the accuracy of the State’s response as detailed in the memorandum. BerryDunn recommends the State CIO review these responses before the State considers next steps with the Project.

1.6 Independent Reviewer Certification

I certify that this Independent Review Report is an independent and unbiased assessment of the proposed solution's acquisition costs, technical architecture, implementation plan, cost-benefit analysis, and impact on net operating costs based on the information the State made available to BerryDunn.

DocuSigned by: <i>Charlie Leadbetter</i> E0E8D90BAA8541F...	6/21/2024
<hr/>	<hr/>
Independent Reviewer Signature	Date

1.7 Report Acceptance

The electronic signature below represents the acceptance of this document as the final completed Independent Review Report.

DocuSigned by: <i>Trisha Watson</i> BBD71B0DB03C439...	6/24/2024
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ADS Oversight Project Manager	Date

DocuSigned by: <i>Denise Reilly-Hughes</i> 6041A76735A7442...	7/2/2024
<hr/>	<hr/>
State of Vermont Chief Information Officer	Date

2.0 Scope of This Independent Review

2.1 In Scope

The scope of this document fulfills the requirements of State Statute, Title 3, Chapter 56, §3303(d).

The Independent Review Report includes:

- An acquisition cost assessment
- A technology architecture review and standards review
- An implementation plan assessment
- A cost analysis and model for benefit analysis
- An analysis of alternatives
- An impact analysis on net operating costs for the agency carrying out the activity
- A security assessment

This Independent Review used the following schedule:

- Week of September 4, 2023: Conduct a project planning meeting, develop a participation memo, schedule interviews, and review documentation
- Weeks of September 11 and September 18, 2023: Conduct the first round of interviews and document initial findings, risks, and issues
- Weeks of September 25 and October 2, 2023: Conduct additional research and follow-up interviews and provide a preliminary Independent Review Report to the State
- Week of October 9, 2023: Collect feedback on, revise, and resubmit the Independent Review (IR) Report
- Week of October 16, 2023: Present IR Report findings, provide an updated report for signature, and facilitate a project closeout meeting (if requested)

2.2 Out of Scope

No items from State Statute, Title 3, Chapter 56, §3303(d) are out of scope for this Independent Review.

3.0 Sources of Information

3.1 Independent Review Participants

Table 3.1 includes a list of stakeholders who participated in fact-finding meetings and/or communications.

Table 0.1: Independent Review Participants

Name	Employer and Title	Participation Topic(s)
State Personnel		
Wendy Knight	DLL, Commissioner	<ul style="list-style-type: none"> General Project Information Implementation Plan Review Acquisition Cost Risk Assessment
Rich Morey	DLL, Retail Director, Liquor Division	
Kim Prior	ADS, IT Director	<ul style="list-style-type: none"> General Project Information Implementation Plan Review Technology Architecture and Standards Review Security Assessment Risk Assessment
Adam Lodewyk	ADS, Systems Developer	
William Hoffman	ADS, Security Officer	
Chary Scott	ADS, Enterprise Architect	
Hallie Rubalcaba	ADS, IT Project Manager	<ul style="list-style-type: none"> General Project Information Implementation Plan Review Technology Architecture and Standards Review Security Assessment Risk Assessment
Rashmi Gupta	ADS, Business Analyst	
Provi Personnel		
Dave Herman	Provi, Chief Product Officer	<ul style="list-style-type: none"> General Project Information Implementation Plan Review Technology Architecture and Standards Review Security Assessment Risk Assessment
Ian Griffith	Provi, Project Lead	
Suzanne Laatsch	Provi, Technical Lead	
Michelle Dama	Provi, Legal Council	
Patrik Schnell	Provi, Chief Technology Officer	

3.2 Independent Review Documentation

Table 3.2 below includes a list of the documentation used to compile this Independent Review.

Table 0.2: Independent Review Documentation

Document Name	Description	Source
DLL B2B Implementation Costs Budget Tracking	Contains detailed implementation costs for each resource category used to populate the IT ABC Form	B2B Project SharePoint Site
DLL B2B RAID_Log	Contains the initial Risk, Action, Issue, Decision (RAID) Log entries	B2B Project SharePoint Site
DLL B2B Stakeholder Register	Contains a list of DLL stakeholders	B2B Project SharePoint Site
DLL B2B_RFP_Scoring Workbook_UPDATED	Scoring sheet used to evaluate vendor procurement responses	B2B Project SharePoint Site
IT_ABC_Form_DLL_Liquor B2B FULLY EXECUTED 3.10.2022	Fully executed IT Activity Business Case & Cost Analysis (IT ABC) Form	B2B Project SharePoint Site
Provi BAFO for VT B2B eCommerce Platform	Provi Best and Final Offer (BAFO) for the DLL Project	B2B Project SharePoint Site
Provi Contract Draft – Vermont 9-5-23	Draft DLL contract with Provi	B2B Project SharePoint Site
Provi-bid	Provi's response to the DLL RFP	B2B Project SharePoint Site
Rfp_342003_1	Request for Proposal B2B Marketplace Platform	GovWin IQ
Govwin Bid Description	GovWin Bid Description	GovWin IQ
RFI #PURCH22-1130 – e-Commerce Solution – Utah	Request for Information	GovWin IQ
Revised Documents and Addendums RFP 22816 Hosted Marketplace Catalog and eInvoicing Solution New York	Request for Proposal	GovWin IQ

4.0 Project Information

4.1 Historical Background

As one of 18 control states, Vermont directly controls the distribution and sale of beverage alcohol within its borders. In Vermont, State control of import and distribution is limited to spirituous beverages. The Vermont DLL provides retail customers access to clean, properly stocked outlets conveniently located around the state; it also enables access to products to meet Vermont resident and visitor demands. DLL's objectives are to:

- Stock new products as they are introduced into the market
- Constantly monitor levels of customer satisfaction and to anticipate customers' needs
- Provide training on product knowledge and customer service for outlet personnel and consumers
- Stabilize outlet inventory levels, minimize out-of-stock situations, and provide customers with a wide variety of products

In July 2023, the Vermont Office of Purchasing and Contracting released an RFP on behalf of DLL to establish contracts with one or more vendors that could provide and implement a B2B website system. ADS received bids from eight vendors and selected Provi as its preferred vendor.

4.2 Project Goals

The successful outcome of the Project is defined by providing on-premise licensees with the following capabilities:

- Order online
- Search inventory with a store locator
- Compare items to out-of-stock products
- Schedule pickup
- Pay with a credit or debit card
- Purchase certain size products at a discount

The Project is also expected to improve inventory forecasting, reduce manual work-arounds, and decrease the burden of processing licensee orders on an antiquated system. The scope for the Project covers the design, development, testing, training, data migration, and implementation of Provi's solution for a B2B website.

4.3 Major Deliverables

Table 4.1 provides a summary of the sample list of deliverables, descriptions, and frequency, as articulated in the draft contract with Provi. Please note that, at the time of BerryDunn's assessment, a comprehensive list of project deliverables was not in place.

Table 4.1: Sample Project Deliverables and Frequency

Deliverable	Description	Primary Responsibility	Update Frequency
Requirements Discovery Sessions (grooming)	<ul style="list-style-type: none"> Requirements in the form of user stories are at a high level. Requirements will need to be refined and defined to the appropriate level of detail. Acceptance criteria shall be defined for all user stories. User Stories and Acceptance Criteria must be captured and managed in the State's Azure Dev Ops environment. 	Contractor and State	Initially to ensure scope of project is well understood, ongoing at the beginning of each release and/or sprint as needed.
Prioritized Product Backlog	<ul style="list-style-type: none"> Backlog of all user stories that are prioritized according to their business value. This is an ongoing exercise through the project lifecycle that is typically done before each sprint. 	Contractor	On-going, typically done before each sprint.
Release & Sprint Schedule	<ul style="list-style-type: none"> Based on the prioritized backlog, a release & sprint schedule should be created that is incorporated into the Implementation Master Schedule (IMS). 	Contractor	Initially after discovery and prioritized backlog are created, updated as needed throughout.
Deliverable Expectation Document (DED)	<ul style="list-style-type: none"> Criteria that establish what the acceptance and rejection criteria of each project deliverable and who is response for approval of the deliverable. 	Contractor	Once per deliverable
Deliverable Acceptance Form (DAF)	<ul style="list-style-type: none"> Obtain sign-off at the completion of each project deliverable as defined by the Deliverable Expectation Document (DED). 	Contractor	Once per deliverable
Change Requests	<ul style="list-style-type: none"> Formal document which outlines any changes to the Contract scope, schedule, budget, and resources. 	State	As needed – completed by Project Manager (PM) of the requesting party

Deliverable	Description	Primary Responsibility	Update Frequency
Risk & Issue Log	<ul style="list-style-type: none"> A log of all risks and issues (opened and closed) that could (risk) or are (issue) impacting the project. Risks should be outlined by their impact and their potential to occur. All risks and issues should have an owner and a clearly defined response strategy. 	State	Weekly (minimum) – log is kept updated by State PM, but Contractor PM is expected to participate and provide risk and issue information from Contractor perspective.
Action Items (A/I)	<ul style="list-style-type: none"> A log of open and resolved/completed action items. Each action item should identify an owner and date needed for completion. 	State is responsible for log updates and tracking of State action items. Contractor PM is responsible for tracking and updates of contractor A/I	As needed – completed by PM of responsible party for the completion of the A/I
Decision Log	<ul style="list-style-type: none"> A log of all decisions made over the course of the project. Decisions should have a date and name of decider. 	State	Weekly – decisions logged by the PM of party making decision.
Test Plans	<ul style="list-style-type: none"> A description of the testing approach, participants, sequence of testing and testing preparations 	Contractor	Once
Test Cases & Results	<ul style="list-style-type: none"> The specific test cases and/or scripts to be tested and the testing results. Test cases must tie back to the project requirements (to ensure each one has been met). Test cases must be documented, and results managed in the State's Azure Dev Ops environment. 	Contractor	Create once then update with Results

Deliverable	Description	Primary Responsibility	Update Frequency
Implementation Master Schedule	<ul style="list-style-type: none"> The IMS outlines how the project will go-live and will include a detailed plan for the exact events that need to occur, assigned to the resources that need to do them, the effort hours required, and the timeframe for when they need to get done. 	Contractor	Within 30 days of contract execution, updated weekly
Project Status Reports	<ul style="list-style-type: none"> Provides an update on the project health, accomplishments, upcoming tasks, risks, and significant issues. The Status Report and the project color being report shall be developed in consultation with the State business lead and State project manager. 	Contractor	Weekly
Meeting Agenda/ Minutes	<ul style="list-style-type: none"> All meetings will have an agenda and minutes. The minutes shall contain items discussed and the risks, issues, action items, and decisions made during the meeting. Minute criteria shall be transcribed over to the main logs. 	Organizer of the meeting	Per occurrence – 24 hours prior to meeting for agendas and 24 hours after meeting for minutes

4.4 Project Phases, Milestones, and Schedule

Table 4.2 summarizes the proposed schedule by phase and estimated completion timing based on the Project start date listed in Provi's draft proposal.

Table 4.2: Proposed Project Phases, Dates, and Phase Descriptions

Phase	Expected Completion Date	Description
Initiation	Within 7-days of contract execution	Kick-off meeting, planning and preparation of project management planning documentation.
Requirements Gathering	Within 30-days of contract execution	Provi performs necessary requirements gathering to finalize functional and technical requirements and identify gaps between State requirements and Solution capabilities.
Implementation	Within 6-months of contract execution	Provi installs and configures the Solution in a Test environment.
Testing	Last 30-days will be dedicated to testing	State subject matter experts perform Solution testing in in a test (not live) environment accordance with Provi-developed Test plans.

Phase	Expected Completion Date	Description
Training	During Testing Phase	Provi performs training of State personnel (train the trainer or train the user).
Legacy Data Migration	Ongoing	Provi shall perform all necessary legacy data migrations using State-approved migration plan and data mapping templates.
Deployment	Ongoing (though it will not be accessible until approved by the State)	Provi implements the tested and State-approved Solution in the production environment for additional State testing and Go-Live.
Post-Implementation Support/Warranty	90 days post go-live	Provi shall be responsible for fixing all Defects found during the Warranty Period. All Defects found within the Warranty Period, shall be corrected by Provi at no additional cost to the State.

5.0 Acquisition Cost Assessment

Table 5.1 includes a summary of acquisition costs reported to BerryDunn during this Independent Review.

Table 0.1: Acquisition Cost Assessment

Acquisition Costs	Cost	Comments
Vendor Implementation/Installation/Configuration	\$841,144.00	
ADS EPMO Project Oversight & Reporting	\$8,800.00	100 hours x \$88/hour
ADS EPMO Project Manager for Implementation	\$96,096.00	1092 hours x \$88/hour
ADS EPMO Business Analyst for Implementation	\$68,640.00	780 hours x \$88/hour
ADS Enterprise Architect Staff for Implementation	\$13,200.00	150 hours x \$88/hour
ADS Security staff for Implementation	\$11,000.00	125 hours x \$88/hour
Other ADS IT Labor for Implementation	\$36,120.00	430 hours x \$84/hour
Independent Review	\$25,000.00	
Total One-Time Acquisition Costs	\$1,100,000	

1. Cost Validation: Describe how you validated the acquisition costs.

BerryDunn validated acquisition costs during documentation review, an interview with the ADS project manager, and its review of the draft contract and IT ABC form.

2. Cost Comparison: How do the acquisition costs of the proposed solution compare to what others have paid for similar solutions? Will VT be paying more, less, or about the same?

BerryDunn researched GovWin—a government contracting intelligence platform from Deltek—to research what other state government agencies have paid for similar solutions and services. In Table 5.2, BerryDunn compared the anticipated cost for the Project to peer organizations that have undertaken similar initiatives or acquired similar systems.

Table 5.2: Cost Comparison for Peer State Agencies

State Agency	System	Cost/Year	Vendor
NYC Campaign Finance Board (CFB)	Software Development Services Bid 6968773: Software Development Services GovWin IQ	\$500,000/2019	Mobikasa LLC
Utah Department of Alcoholic Beverage Services (DABS)	e-Commerce Solution Opp 224500: E COMMERCE SOLUTION GovWin IQ	\$200,000 (estimated) / 2023	(Active Procurement)

State Agency	System	Cost/Year	Vendor
NY State Office of General Services	Hosted Marketplace Catalog and E Invoicing Solution Opp 102224: HOSTED MARKETPLACE CATALOG AND E INVOICING SOLUTION GovWin IQ	\$1,284,000/2014	Perfect Commerce Inc.

Given potential differences in solutions and services procured by other states and the highly specific nature of the State's project, this analysis is intended to be informational in nature and should not serve as a basis for what the State should be paying.

- 3. Cost Assessment:** Are the acquisition costs valid and appropriate in your professional opinion? List any concerns or issues with the costs.

Based on BerryDunn's analysis experience, the firm believes the State is paying comparable costs to similar solutions and services in the market.

6.0 State's Enterprise Architecture Guiding Principles

1. State's Enterprise Architecture Guiding Principles: Describe how the proposed solution aligns with each of the State's Enterprise Architecture Guiding Principles.

a. Assess how well the technology solution aligns with the business direction

This project aims to improve the licensee ordering experience by enabling them to order online for scheduled pickups, make credit card payments, purchase 1-liter products at a discount, find comparable items to replace out-of-stock products, and easily locate available product. This project will also enhance DLL's ability to analyze demand and inventory data.

b. Assess how well the technology solution maximizes benefits for the State

Primary benefits the solution provides the State will be those articulated in the IT ABC Form and the RFP, including:

- **Enterprise Alignment and Readiness:** The Project will support the governor's priority to grow the Vermont economy. The initiative will reduce the cost of goods for distilled spirits for on-premise licensees and improve the efficiency of purchasing, helping them sustain their businesses. This project is an economic recovery initiative, as Vermont's hospitality sector has been greatly impacted by COVID-19-related business closures.
- **Equity:** The new solution will make the process of ordering 1-liter product sizes easier and will offer discounts, providing smaller establishments with an opportunity to better utilize their small staff numbers and cash reserves and compete in a highly competitive market.

c. Assess how well the information architecture of the technology solution adheres to the principle of Information is an Asset

Provi's solution will allow the State to better forecast product need, which will improve DLL's stock rotation and reduce the amount of state-owned inventory required to be held at agencies waiting for purchase. Earlier ordering by licensees will provide information to the DLL purchasing coordinator. As a result of having access to better data, DLL is expected to better predict ordering trends, which will help reduce inventory and out-of-stock items.

d. Assess if the technology solution will optimize process

Provi's solution is anticipated to simplify the ordering process for licensees. Currently, licensees might need to contact multiple distributors to determine what products are in stock and to compare prices. Licensees can also find the process for manually submitting orders time consuming and inefficient.

e. Assess how well the technology solution supports resilience-driven security

BerryDunn learned during its interview with Provi and ADS that Provi's solution, which will function as an interface for licensees to access data hosted in D365, will not store financial or personally identifiable information.

- 2. Sustainability:** Comment on the sustainability of the solution's technical architecture (i.e., is it sustainable?)

BerryDunn understands that Provi's solution is not one ADS' list of standardized applications as will result in a new solution needing to be sustained.

- 3. How does the solution comply with the ADS Strategic Goals enumerated in the Agency of Digital Services Strategic Plan 2022 – 2026?**

The Provi solution complies with the Vermonter Experience ADS strategic goal in the ADS Strategic Plan. An electronic option to submit and pay for liquor orders will help increase the number of simple, low-cost, online transactions with the State and help improve its experience working with DLL by reducing the need for outdated paper processes.

- 4. Compliance with the Section 508 Amendment to the Rehabilitation Act of 1973, as amended in 1998:** Comment on the solution's compliance with accessibility standards as outlined in this amendment. Reference: <http://www.section508.gov/content/learn>.

During interviews with Provi staff, BerryDunn learned Provi intends to comply with the State's Section 508 compliance needs; however, BerryDunn found no language in Provi's proposal or draft contract regarding the State's expectations on this matter.

- 5. Disaster Recovery:** What is your assessment of the proposed solution's disaster recovery plan? Do you think it is adequate? How might it be improved? Are there specific actions that you would recommend to improve the plan?

Based on BerryDunn's interview with Provi and review of Provi's proposal, Provi will maintain off-site backups for the State's data, software, and systems, which is standard for Provi's approach. Provi's infrastructure is entirely virtualized, and provisioning is fully automated. Provi has plans for how to redeploy to another Amazon Web Services (AWS) data center if Provi's primary data center is lost and unrecoverable. It is BerryDunn's belief that the disaster recovery plan will meet industry best practices and technical standards.

- 6. Data Retention:** Describe the relevant data retention needs and how they will be satisfied for or by the proposed solution.

Provi will use AWS to provide the State with relational stores, caching, file storage, and data warehousing. All the State's data will be encrypted at rest using standard AWS encryption practices. Data backups will occur throughout each day. Backups for geographic redundancy will occur nightly.

- 7. SLA:** What are the post-implementation services and service levels required by the State? Is the vendor-proposed SLA adequate to meet these needs in your judgment?

The draft Service Level Agreement (SLA) is included as an attachment in the draft contract. In BerryDunn's review of the draft contract and during its interview with Provi, this SLA will satisfy all requested services listed in the RFP. The draft SLA contains information on how Provi will work with the State to:

- Provide service levels for platform availability, platform performance, incident reports, and incident resolution.
- Respond and resolve support requests by defined priority levels.
- Provide the State with service credits for instances of failure to uphold Provi's guarantees and exceptions to these circumstances.

8. System Integration: Is the data export reporting capability of the proposed solution consumable by the State? What data is exchanged, and what systems (State and non-State) will the solution integrate/interface with?

Provi's solution will need to integrate with both D365 and NIC Vermont. BerryDunn learned during its interview with ADS IT staff that they did not feel confident based on conversations during contract negotiations that Provi has performed D365 integrations on previous projects and anticipated this would pose a technical challenge for them. The Provi solution will provide an interface for 802Spirits employees to access D365 inventory information.

7.0 Assessment of Implementation Plan

1. The reality of the implementation timetable.

The draft contract included a proposed outline of a schedule—by phases and estimated start and finish dates—based on the Project start date listed in Provi’s draft proposal.

Table 7.1: Proposed Project Phases, Dates, and Phase Descriptions

Phase	Expected Start and Finish Date
Integrate With State Data	
Kickoff and Data Consultation	3/1/2023
Define and Create Data Exchange Methodology	3/2/2023 – 3/14/2023
State Products Imported Into Provi	3/15/2023
State Licensee File Integration	6/20/2023
Order Ingestion Testing	6/23/2023 – 7/14/2023
Data Mapping	
Data Mapping and Configuration	3/16/2023 – 4/7/2023
Product Mapping of State Portfolio	4/8/2023 – 4/27/2023
Agency Stores Mapped as Inventory Locations	4/12/2023
Create Order Export in D365 Format	6/19/2023 – 6/22/2023
Upload Licensees’ Accounts With State License Information	6/21/2023 – 6/28/2023
Customize Feature Development	
Messaging	3/16/2023 – 5/3/2023
Search for Products by Nearest Agency Location	4/14/2023 – 5/3/2023
Fintech and Credit Card Payment Integration	5/3/2023 – 5/15/2023
Products Identified and Filtered by Location	5/5/2023
Inventory Planning Tools	5/9/2023 – 7/17/2023
Account Management Tools	5/14/2023 – 6/12/2023
Product Ordering Restricted by State License File	5/14/2023 – 6/12/2023
Changes to Provi Configuration for VT	5/25/2023 – 7/8/2023
Custom Feature Development Complete	6/1/2023 - 6/30/2023
Training and Go-Live	
Provi Provides Training for DLL and 802Spirits employees	7/16/2023 – 8/12/2023
Data Review and Launch Signoff	7/16/2023 – 7/29/2023

Phase	Expected Start and Finish Date
Launch Minimally Viable Product (MVP)	8/1/2023 – 8/1/2023
Training Complete	8/14/2023 – 8/14/2023
Support and Promotion	
Provi Marketing Conducts Outreach to VT Licensees	7/19/2023 – 9/30/2023
Onboarding Team to Help Build Measurements of Success	7/25/2023 – 11/9/2023

2. Readiness of impacted divisions/departments to participate in this solution/project (consider current culture, staff buy-in, organizational changes needed, and leadership readiness).

BerryDunn learned of—during its interview with Project leadership and Project management—resources that staff are excited about in the new system and the anticipated benefits. These benefits will improve functionality and allow State resources to better analyze and report on permitting applications. BerryDunn also learned that the delivery of these benefits has been discussed and expected for multiple years and are positively anticipated. Based on interviews with Project management and leadership, BerryDunn believes the business case and objectives of the Project are well understood and supported among Project resources.

3. Do the milestones and deliverables proposed by the vendor provide enough detail to hold the vendor accountable for meeting the business needs in these areas?

a. Project Management

In its proposal, Provi mentioned it will manage the project from two tracks—the data integration track and custom feature development—to meet the State’s RFP requirements. Provi’s product manager will manage the customizations required for this RFP and coordinate with Provi’s engineers who use the system to track their progress. Provi will be using a modified agile methodology to manage this implementation, with a two-week sprint cadence development of the solution.

Training

In its proposal, Provi mentioned it will begin training activities for DLL staff once an MVP has been developed. Provi will train DLL staff to maintain product listings and process orders. Provi will also conduct onboarding training for licensees who register for the platform. Training will include one-on-one screenshares and webinars.

b. Testing

During BerryDunn’s interview with Provi, BerryDunn learned Provi plans to conduct several forms of testing, including:

- Internal software testing
- User acceptance testing

- Functional and nonfunctional, unit tests
- Automated regression testing

However, BerryDunn did not identify documentation of these plans in Provi's proposal or draft contract. BerryDunn also learned in its interview with Provi that Provi will conduct code reviews to identify vulnerabilities from first and/or third parties and will use industry standard tools to conduct testing and track results and defects. Provi will establish a testing environment for validating the solution.

c. Design

Provi's proposal schedules for requirements elicitation to occur in the first 30 days, during which Provi will lead sessions to finalize the State's Functional and Nonfunctional Requirements from the RFP, identify technical requirement gaps, and develop a mockup of the new solution's user. Following this, Provi will conduct two-week sprints to modify the commercial off the shelf (COTS) solution so that it addresses the State's unique needs. At the end of each sprint, Provi will discuss progress made during the development phase, demonstrate progress, and gather feedback from the State.

d. Conversion

Provi's proposal contains minimal detail regarding its planned approach to data conversion. While Provi will be providing data regarding the names and images of products, most data in the system will be pulled into Provi through integrations with D365 and NIC Vermont.

e. Implementation Planning

Within the first 30 days of contract signature, Provi will develop and gain approval from the State on an IMS, which will outline how the project will go live and include a detailed plan for the exact events that need to occur. The IMS will contain assignments for Provi and State resources, effort estimates, and when each task needs to be completed.

f. Implementation

In its proposal, Provi described it will use a hybrid version of Agile, in which the State's requirements will be refined and completed during sprints. At the conclusion of each sprint, the Project will conduct demonstrations of the current solution to help ensure alignment with State expectations.

- 4. Does the State have a resource lined up to be the project manager on the project? If so, does this person possess the skills and experience to be successful in this role in your judgment? Please explain.**

Based on BerryDunn's interactions with the Project manager during this Independent Review, the firm is confident the individual has the skills and experience necessary for the role.

8.0 Cost Analysis and Model for Benefit Analysis

- 1. Analysis Description:** Provide a narrative summary of the cost-benefit analysis conducted. Be sure to indicate how the costs were independently validated.

BerryDunn evaluated the costs the State provided in the IT ABC Form and the draft contract. BerryDunn discussed the benefits of the Project during interviews with the State and incorporated that information in this report.

- 2. Assumptions:** List any assumptions made in your analysis.

The cost-benefit analysis was performed using the following assumptions:

- There is a five-year life cycle, with implementation activities beginning in Fiscal Year (FY) 2024
- Maintenance and licensing payments will begin in FY 2025
- All implementation and payments to Provi will be made according to the draft contract
- State labor costs are for implementation only, not for time spent during previous Project phases before contract execution (e.g., exploration, planning, contracting)

- 3. Funding:** Provide the funding source(s). If multiple sources, indicate the percentage of each source for both acquisition costs and ongoing operational costs over the duration of the system/service life cycle.

The Project will pay 100% of implementation and operating costs with State funds.

- 4. Tangible Costs and Benefits:** Provide a list and description of the tangible costs and benefits of this project. It is “tangible” if it has a direct impact on implementation or operating costs (an increase = a tangible cost, and a decrease = a tangible benefit). The cost of software licenses is an example of a tangible cost. Projected annual operating cost savings is an example of a tangible benefit.

Tangible Costs

- Implementation services: \$1,075,000 (one-time cost)
- Maintenance, support, hardware, hosting, and licenses costs include:
 - Annual Provi maintenance fees: \$300,000 (four-year cost)
 - Annual State maintenance costs: \$21,840 (four-year cost)
- State labor costs include:
 - ADS EPMO Project Oversight: \$8,800
 - ADS EPMO Project Manager: \$96,096

- ADS EPMO BA: \$69,640
- ADS EA: \$13,200
- ADS Security Staff: \$11,000
- Other ADS Labor: \$36,120

Tangible Benefits

Based on the State's assumptions in the IT ABC Form, the State will experience tangible benefits by improving efficiency and automating processes as a result of implementing the new solution. The State's assumptions for these savings are as follows:

- Reduced cost of goods and improved business efficiencies contribute to sustainability of businesses and recovery from COVID-19 economic impacts.
- Improved forecasting ability allowing for a reduction of state-owned inventory required to be held at agencies.

- 5. Intangible Costs and Benefits:** Provide a list and descriptions of the intangible costs and benefits. It is "intangible" if it has a positive or negative impact but is not cost related. Examples: Customer service is expected to improve (intangible benefit), or employee morale is expected to decline (intangible cost).

Intangible costs and benefits include:

- Increased work proficiency by reducing manual processes.
- Improved customer satisfaction created by ease of selection, ordering, payment, and pickup.
- Improved forecasting ability allowing for a reduction of state-owned inventory required to be held at agencies.

- 6. Costs vs. Benefits:** Do the benefits of this project (consider both tangible and intangible) outweigh the costs in your opinion? Please elaborate on your response.

BerryDunn is unable to provide an analysis on whether the costs of the Project outweigh the planned benefits of the solution, as tangible benefits were not part of the State's justification for the Project. BerryDunn understands the Project intends to support DLL's strategic initiative to make the process and costs for on-premises licensees more efficient and affordable and is not primarily justified by anticipated cost savings for the State.

- 7. IT ABC Form Review:** Review the IT ABC Form (Business Case/Cost Analysis) created by the State for this project. Is the information consistent with your Independent Review and analysis? If not, please describe. Is the life cycle that was used appropriate for the technology being proposed? If not, please explain.

The draft IT ABC form largely reflects BerryDunn's findings, and BerryDunn used it to inform the financial analysis.

9.0 Analysis of Alternatives

1. Provide a brief analysis of alternative solutions that were deemed financially unfeasible.

BerryDunn has learned from documentation reviews that four vendors submitted proposals for this Project.

2. Provide a brief analysis of alternative technical solutions that were deemed unsustainable.

BerryDunn has learned from documentation reviews that alternative technical solution analysis had previously been conducted prior to the requirements gathering and RFP drafting process.

3. Provide a brief analysis of alternative technical solutions where the costs for operations and maintenance were unfeasible.

The evaluation team reviewed and scored various aspects of vendor proposals. Table 9.1 below shows the evaluated vendors' weighted scores with totals.

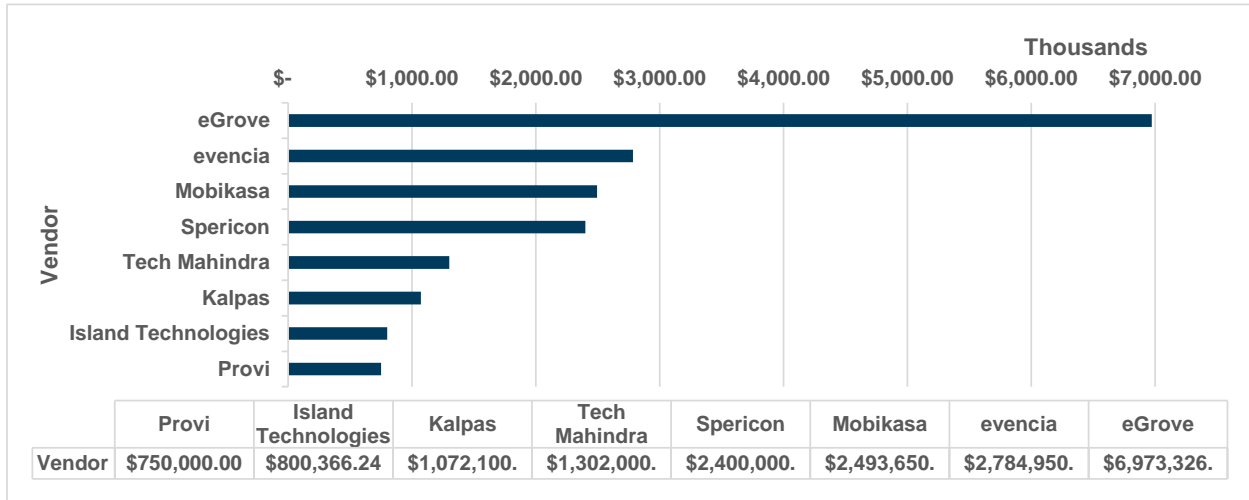
Table 9.1: Summary of Proposal Scores

Rating Criteria	Bidder Evaluation Scores (Refer to Below List for Bidder Numbers)							
	1	2	3	4	5	6	7	8
Profile	40.00	38.00	38.00	26.00	42.50	40.00	20.00	46.00
Solution	84.00	144.00	96.00	78.00	108.00	102.00	54.00	114.00
Implementation Services	57.50	62.50	60.00	42.50	52.50	70.00	35.00	65.00
Maintenance and Support	39.00	72.00	39.00	45.00	48.00	63.00	36.00	66.00
Pricing	55.00	85.00	70.00	60.00	80.00	95.00	55.00	95.00
Demonstration	N/A	21.00	N/A	N/A	N/A	23.00	N/A	6.25
Acceptance of State Terms & Conditions (Ts&Cs)	Pass	Fail	Pass	Pass	Pass	Fail	Pass	Fail
Adherence to Mandatory Requirements	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Fail
Total	275.50	422.50	303.00	251.50	331.00	411.00	200.00	392.25

Eight bids were received from the following vendors:

1. eGrove
2. Evencia
3. Island Technologies
4. Kalpas
5. Mobikasa
6. Provi
7. Spericom
8. Tech Mahindra

The evaluation team recommended the State pursue a contract with Provi for the B2B solution.



BerryDunn believes the competitive bid process (e.g., proposal evaluations and vendor demonstrations) was not a sound approach to understanding the State’s options for procuring a new solution and applicable services. BerryDunn recommends the State reconsider how much its scoring criteria prioritize bidders’ experience implementing their proposed solutions with other state government agencies. Provi responded “no” to the following question from the State’s RFP: “Have you implemented the proposed solution for other government entities? If so, tell us who, when, and how that implementation went.” It is BerryDunn’s opinion that this is a high-risk approach for the State to contract with a vendor that does not have this experience, as meeting state government requirements can pose significant challenges to software vendors that have been successful with private-sector clients. Furthermore, software vendors in this situation will often underestimate the challenges and unique needs of state governments.

BerryDunn noticed that the costs provided by bidders do not directly correlate to the scores they received in the “Pricing” section of the evaluation, as some bidders will higher quoted prices received higher scores than their lower score competitors. However, BerryDunn was not able to find additional information on how the scoring of this section was completed.

BerryDunn also recommends the State consider not allowing bidders that fail either “Acceptance of State Ts&Cs” or “Adherence to Mandatory Requirements” from being considered. This might require the State reconsider its requirements in these areas so that only truly necessary requirements are included and that bidders can provide viable work-arounds if they do not meet these requirements.

10.0 Impact on Analysis of Net Operating Costs

1. Insert a table to illustrate the Net Operating Cost Impact.

Table 10.1, on the following page, illustrates the impact on net operating costs over five years. Please note, BerryDunn used the IT ABC form that was approved at the time of fact-finding activities and might not reflect currently anticipated costs based on changes made to the Project's estimates since. Later versions of the IT ABC form and/or the draft contract with Provi might have more current information.

Table 10.1: Life Cycle Costs by Year

Impact on Operating Costs	FY24	FY25	FY26	FY27	FY28	FY29	Six-Year Totals
Professional Services (Non-Software Costs)							
Current Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Projected Costs	\$560,762.67	\$280,381.33	\$0	\$0	\$0	\$0	\$841,144
Maintenance, Support, Hardware, Hosting, and License Costs							
Current Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Projected Costs	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,500,000
Other Costs (State Labor)							
Current Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Projected Costs	\$172,570.66	\$108,125.34	\$21,840	\$21,840	\$21,840	\$21,840	\$368,056
Baseline Current Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Baseline Projected Costs	\$733,333.33	\$688,506.67	\$321,840	\$321,840	\$321,840	\$321,840	\$2,709,200
Cumulative Current Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Projected Costs	\$733,333.33	\$1,421,840	\$1,743,680	\$2,065,520	\$2,387,360	\$2,709,200	\$2,709,200
Net Impact on Professional Services	(\$560,762.67)	(\$280,381.33)	\$0	\$0	\$0	\$0	(\$841,144)
Net Impact on Software Acquisition, Maintenance, Support, Licenses Costs, and Other	(\$172,570.66)	(\$408,125.34)	(\$321,840)	(\$321,840)	(\$321,840)	(\$321,840)	(\$1,868,056)

Impact on Operating Costs	FY24	FY25	FY26	FY27	FY28	FY29	Six-Year Totals
Net Impact on Operating Costs:	(\$733,333.33)	(\$688,506.34)	(\$321,840)	(\$321,840)	(\$321,840)	(\$321,840)	(\$2,709,200)

2. Provide a narrative summary of the analysis conducted and include a list of any assumptions.

BerryDunn conducted an impact analysis on net operating costs using the costs validated and verified in the acquisition cost assessment and cost-benefit analysis sections in this report. The following assumption was used during this analysis:

- There is a five-year life cycle, with implementation activities occurring during the first and second years (FY 2024 and FY 2025).

The calculations used in performing the analysis include the following:

- The projected costs for FY 2023 Professional Services (Non-Software Costs) include:
 - Provi's Implementation Services: \$841,144
 - Independent Review Services: \$25,000
- The projected cost for Other Costs (State Labor) includes the following for each year of implementation (i.e., FY 2024 and FY 2025):
 - ADS EPMO Project Oversight: \$8,800
 - ADS EPMO Project Manager: \$96,096
 - ADS EPMO BA: \$68,640
 - ADS EA: \$13,200
 - ADS Security Staff: \$11,000
 - Other ADS Labor: \$36,120
- The projected annual costs from FY 2025 through FY 2028 for Maintenance, Support, Hardware, Hosting, and Licenses include:
 - Provi's Maintenance Services: \$300,000.00
 - ADS's Solution Maintenance Costs: \$21,840.00

3. Explain any net operating increases that will be covered by federal funding. Will this funding cover the entire life cycle? If not, please provide the breakouts by year.

All net operating costs (100%) will be covered by State funding.

4. What is the break-even point for this IT activity (considering implementation and ongoing operating costs)?

Based on the costs in the draft contract and IT ABC form, there is not a break-even point prior to the end of FY 2028, as shown in Figure 10.2 below.

Figure 10.2: Baseline Current and Baseline Projected Costs

Description	Implementation	Implementation/ Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Total
	FY23	FY24	FY25	FY26	FY27	FY28	
Maintenance, Support, Hardware, Hosting, and License Costs							
Enterprise Application – License Fees	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operating System – Hosting	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Support and Maintenance	\$0.00	\$321,840.00	\$321,840.00	\$321,840.00	\$321,840.00	\$321,840.00	\$1,609,200.00
Other Professional Services							
Vendor Implementation/ Installation/ Configuration	\$560,762.67	\$280,381.33	\$0.00	\$0.00	\$0.00	\$0.00	\$841,144.00
Implementation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Independent Review	\$16,666.67	\$8,333.33	\$0.00	\$0.00	\$0.00	\$0.00	\$25,000.00

Description	Implementation	Implementation/ Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Total
	FY23	FY24	FY25	FY26	FY27	FY28	
State Labor Costs							
ADS EPMO Project Oversight	\$5,866.67	\$2,933.33	\$0.00	\$0.00	\$0.00	\$0.00	\$8,800.00
ADS EPMO Project Manager	\$64,064.00	\$32,032.00	\$0.00	\$0.00	\$0.00	\$0.00	\$96,096.00
ADS EPMO BA	\$45,760.00	\$22,880.00	\$0.00	\$0.00	\$0.00	\$0.00	\$68,640.00
ADS EA	\$8,800.00	\$4,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$13,200.00
ADS Security Staff	\$7,333.33	\$3,666.67	\$0.00	\$0.00	\$0.00	\$0.00	\$11,000.00
Other ADS Labor	\$24,080.00	\$12,040.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36,120.00
Other Costs	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Operating Costs	\$0.00	\$321,840.00	\$321,840.00	\$321,840.00	\$321,840.00	\$321,840.00	\$1,609,200.00
Total Implementation	\$733,333.34	\$366,666.66	\$0.00	\$0.00	\$0.00	\$0.00	\$1,100,000.00
Total Life Cycle Costs to be Paid with State Funds	\$733,333.34	\$688,506.66	\$321,840.00	\$321,840.00	\$321,840.00	\$321,840.00	\$2,709,200.00
Total Life Cycle Costs to Be Paid with Federal Funds	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

11.0 Security Assessment

1. Will the new system have its own information security controls, rely on the State's controls, or incorporate both?

BerryDunn learned from documentation reviews that Provi will implement security controls and best practices according to the National Institute of Security and Technology (NIST) framework when applicable to its environment. Many of the vendor's controls align with NIST 800-53, but some are not applicable.

2. What method does the system use for data classification?

At the time BerryDunn conducted this IR, Provi had not provided any architecture or security documentation that defines and qualifies their proposed data classification scheme.

3. What is the vendor's breach notification and incident response process?

BerryDunn learned from documentation reviews that the entire proposed infrastructure is monitored 24/7 by CrowdStrike's Managed Detection and Response (MDR). CrowdStrike's Endpoint Detection and Response (EDR) agent resides on all the machines (Windows, Linux, Macs, and mobile) and uses machine learning and artificial intelligence (AI) to actively monitor and protect against attacks in real time.

Once a detection is present, the suspected machine(s) is automatically isolated from the network until the Security Operations Center (SOC) analysts investigate the finding and analyze all the executables, logs, and attack patterns involved and compare it to previous similar patterns of attacks before making the decision of true positive or false positive.

This method prevents breaches before they spread across the network. In case of a breach, CrowdStrike's Digital Forensics and Incident Response (DFIR) team is engaged to start the life cycle of an Incident Response until the completion of all five stages: preparation, identification, containment, eradication, and recovery.

4. Does the vendor have a risk management program that specifically addresses information security risks?

At the time BerryDunn conducted this IR, Provi had not provided any architecture or security documentation that defines and qualifies their risk management program.

5. What encryption controls/technologies does the system use to protect data at rest and in transit?

BerryDunn learned from documentation reviews that the following encryption controls and technologies will be used to protect data at rest and in transit:

- AWS is used for all data storage, including relational stores (PostgreSQL), caching (Redis, Memache), file storage (S3), and data warehousing (Snowflake via AWS). All data is encrypted at rest using standard AWS encryption practices.
- All critical infrastructure and apps use transport layer security (TLS) encryption.

- All main and public apps utilize strong industry standards for TLS encryption.
- All communication over email or messaging platforms support secure/multipurpose internet mail extension (S/MIME) and TLS for encryption. Some emails may not be encrypted if the receiving end does not support encryption.

6. What format does the vendor use for continuous vulnerability management, what process is used for remediation, and how do they report vulnerabilities to customers?

BerryDunn learned from documentation reviews that the vulnerability management agent on all machines is able to detect and protect against known zero-day and critical vulnerabilities in real time until a patch is applied.

Additionally, as of the conduct of this IR, the vendor has not provided any architecture or security documentation that further defines and qualifies their format for continuous vulnerability management.

7. How does the vendor determine their compliance model and how is their compliance assessed?

At the time BerryDunn conducted this IR, Provi had not provided any architecture or security documentation that defines and qualifies their compliance model and how their compliance is assessed.

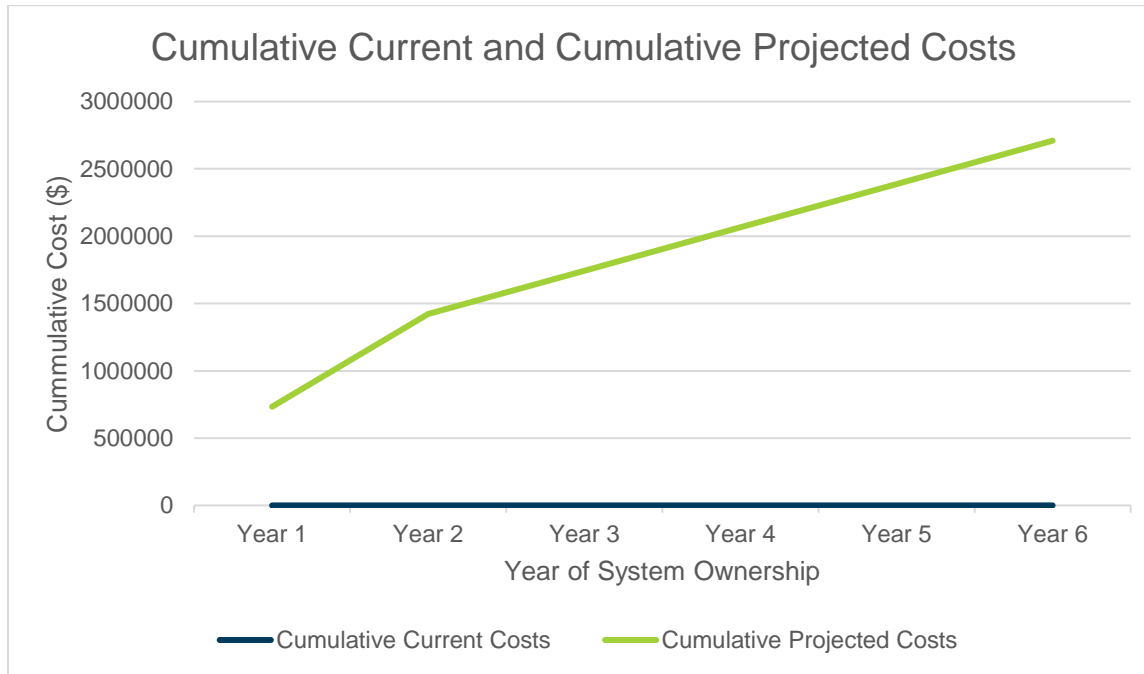
12.0 Risk Assessment and Risk Register

The risks identified during this Independent Review can be found in Attachment 2 – Risk Register.

Attachment 1 – Life Cycle Cost-Benefit Analysis

Table A.1, on the following page, reflects a five-year life cycle cost analysis.

Table A.1: Life Cycle Analysis



Attachment 2 – Risk Register

Data Element	Description
Risk #	Sequential number assigned to a risk to be used when referring to the risk.
Risk Likelihood/Probability, Impact, Overall Rating	Two-value indicator of the potential impact of the risk if it were to occur, along with an indicator of the probability of the risk occurring. Assigned values are High, Medium, or Low.
Source of Risk	Source of the risk, which might be interviews with the State, project documentation review, or vendor interview.
Risk Description	Brief narrative description of the identified risk.
Implication	A likely consequence of the identified risk.
State’s Planned Risk Strategy	Strategy the State plans to take to address the risk. Assigned values are Avoid, Mitigate, Transfer, or Accept.
State’s Planned Risk Response	Risk response the State plans to adopt based on discussions between State staff and BerryDunn reviewers.
Timing of Risk Response	Planned timing for carrying out the risk response, which might be prior to contract execution or subsequent to contract execution.
Reviewer’s Assessment of State’s Planned Response	Indication of whether BerryDunn reviewers think the planned response is adequate and appropriate, including recommendations if not.

Risk Rating Criteria			
Scale	Low	Medium	High
Impact	Condition does not impact quality and is unlikely to impact achievement of project objectives. -OR- Condition might be mitigated through adjustment in effort to avoid impacts to project objectives.	Condition might be mitigated through reduction or deferral of baseline scope to avoid impact to quality and/or moving date of key milestone. -OR- Condition might be mitigated by focused corrective actions to help ensure achievement of project objectives.	Condition might require acceptance of agreed-upon modifications to avoid impact(s) to key project objectives. -OR- Conditions might introduce risk to project scope, quality of work products, system solution, and/or user experience.
Likelihood	1% – 39%	40% – 89%	90% – 100%

Risk #: #1	Risk Likelihood/Probability: High	Risk Impact: High	Overall Risk Rating: High
Source of Risk: Interview with Project Management and ADS IT			
<p data-bbox="203 348 1406 415">Risk Description: The draft contract has related vendor obligations dispersed in various places and described at varying levels of detail.</p> <p data-bbox="203 428 422 455">The draft contract:</p> <ul data-bbox="253 474 1417 1898" style="list-style-type: none"> <li data-bbox="253 474 1417 720">• Contains references to deliverables in the Functional and Nonfunctional Requirements exhibit that are not mentioned in the deliverables table and do not contain the same level of detail (in regard to deliverable expectations) as those listed in the deliverables table. <ul style="list-style-type: none"> <li data-bbox="350 585 1417 720">○ For example – “Architecture Document to represent the current configuration of all instances in all Environments” and “Service Provider will implement and provide detailed documentation of available high environments as required by the State. (PRODUCTION, STAGING, DISASTER RECOVERY).” <li data-bbox="253 737 1417 1062">• Contains references to deliverables in the phase table that are not mentioned in the deliverables table and do not contain the same level of detail (in regard to deliverable expectations) as those listed in the deliverables table (and some do not have documented due dates). <ul style="list-style-type: none"> <li data-bbox="350 884 1417 982">○ For example – “Contractor shall perform all necessary legacy data migrations using State-approved migration plan and data mapping templates,” with no additional deliverable expectations listed. <li data-bbox="350 999 1417 1062">○ “Kick-off meeting, Planning and preparation of project management planning documentation,” with no additional deliverable expectations listed. <li data-bbox="253 1079 1417 1898">• Contains requirement responses from Provi’s proposal that likely should be removed (e.g., requirements deemed not applicable by both Provi and the State) or evolved (e.g., requirements that Provi provided initial responses to that require additional clarity/negotiating) <ul style="list-style-type: none"> <li data-bbox="350 1188 1417 1325">○ For example, the following requirement is marked as “N/A:” “Solutions will include supported releases of all software, including any third-party application components. Documentation will be presented to Change Management as part of the Request for Change (RFC) process.” <li data-bbox="350 1341 1417 1646">○ The following requirement is marked as “Yes:” “Service Provider will align with the IT service management process areas as outlined in the Information Technology Infrastructure Library (ITIL) and uses this framework as a guide for operational delivery. Service Provider’s internal documentation specifies current operational processes and procedures for employees’ performance of technical functions related to all services and environments” to which the vendor’s description of compliance states: “Many of our policies and procedures align with ITIL framework in incident, change and configuration management controls, but some people are not applicable to our environment.” <li data-bbox="350 1663 1417 1898">○ The following requirements were both marked as “No” without clear or State-approved work-arounds (as confirmed in BerryDunn’s interview with ADS IT): “Solutions will maintain a record of all additions, changes and deletions made to data in the system. This will be readily searchable by user ID or client ID of the person who made the change, the date and time of the change, the physical, software/hardware and/or network location of the person while making the change, the information that was changed, the outcome of the event; the data before and after it was changed, and 			

Risk #: #1	Risk Likelihood/Probability: High	Risk Impact: High	Overall Risk Rating: High
<p>which screens were accessed and used. The Service Provider will maintain a record of all revisions to data when the system has been overridden by users from automatic processing or monetary value has changed. This will be maintained for online reference of the critical areas and supplemented at the data base level for offline recall. Solutions will allow an authorized administrator to set the inclusion or exclusion of auditable events based on organizational policy and operating requirements/limits,” and “Solutions will prevent modifications to the audit records in the normal course of operations. Any change or removal of an audit record would require signed State approval and be documented.”</p> <ul style="list-style-type: none"> • Contains requirement maintenance and operational support requirements in the Functional and Nonfunctional Requirements exhibit (as well as Provi’s initial responses to those requirements) that likely should be removed from that exhibit and incorporated into the SLA (Attachment E). <ul style="list-style-type: none"> ○ For example – “Solutions will have critical security patches applied within 24 hours of the patch release.” • Does not list or reference any specific implementation deliverables (including those from the deliverables table) or their payment dates in the payment milestone table (i.e., only a single payment milestone is listed for all implementation efforts in the amount of \$135,000) <p>By having such contractual obligations dispersed in various places in the contract and having varying levels of detail, the State and Provi are at risk of being misaligned on expectations, and the State might not be able to enforce its expectations and requirements.</p>			
State’s Planned Risk Strategy: Accept and Mitigate			
State’s Planned Risk Response: The State has conducted a legal review of the draft contract and removed Provi’s comments included in its bid. The State has also requested Provi to provide either outlines or further detail and acceptance criteria on the expected content for each deliverable. The State has begun to modify “N/A” and “No” responses from Provi in the Functional and Nonfunctional Requirements and will be removing all “N/A” responses and discussing Provi’s “No” responses with Provi staff. The State plans to update the payment milestones to include additional detail in a phase-based payment schedule.			
Timing of Risk Response: Prior to contract execution			
Reviewer’s Assessment of State’s Planned Response: BerryDunn accepts the State’s planned response.			
Updates Discussed During Presentation of Findings:			

Risk #: #2	Risk Likelihood/Probability: Medium	Risk Impact: Medium	Overall Risk Rating: Medium
Source of Risk: Interviews with Project management and Project leadership			
<p>Risk Description: The Project does not yet have clear plans to perform Organizational Change Management (OCM) efforts.</p> <p>While the draft Provi contract and the Provi proposal does contain planned deliverables for end-user training, there is no mention of planned organizational change management (OCM) efforts (e.g., interested party engagement, feedback solicitation, and communication). BerryDunn confirmed this during its interviews with Project management and Project leadership, both of which agreed the Project will need to develop an approach to conducting OCM. Given OCM services were not listed as part of the RFP requirements, the State should expect to perform these Project efforts or outsource them.</p> <p>Without OCM efforts, the Project is at risk of not providing interested parties with information and support to adopt the changes the Project will bring to their roles.</p>			
State's Planned Risk Strategy: Accept, Monitor, and Mitigate			
State's Planned Risk Response: The State does not have plans or resources at this time for OCM services on the Project. The Project manager will monitor this risk during the Project. If OCM services appear to be warranted for the Project, the Project manager will escalate this risk and identify OCM resources.			
Timing of Risk Response: During the Project's implementation phase			
Reviewer's Assessment of State's Planned Response: BerryDunn accepts the State's planned response.			
Updates Discussed During Presentation of Findings:			

Risk #: #3	Risk Likelihood/Probability: High	Risk Impact: High	Overall Risk Rating: High
Source of Risk: Interviews with Project Management and ADS			
<p>Risk Description: The draft contract's one-month period (occurring immediately prior to go-live) might not be enough time to conduct Provi's testing activities, the State's testing activities, and end-user training.</p> <p>BerryDunn learned during its review of Provi's draft contract (and confirmed during its interview with Project management and ADS IT) that there is only a one-month period prior to go-live for Provi's testing activities, the State's testing activities, and end-user training, which is likely not sufficient time for these efforts.</p> <p>If there is not adequate time set aside for testing, the Project might not uncover critical flaws within the platform—which might affect application functionality, business processes, internal controls, transaction processing, and reporting.</p> <p>If there is not adequate time set aside for training, Provi solution end users might not be sufficiently prepared to perform their responsibilities once the solution is in production—which might lead to decreased productivity, errors, inefficiencies, and poor customer satisfaction.</p>			
State's Planned Risk Strategy: Mitigate			
State's Planned Risk Response: The Project manager has requested for Provi to provide further clarification on how testing and training will occur during this period and, whether it will be enough time to complete all planned activities, and planned completion dates for these tasks within the period.			
Timing of Risk Response: Prior to contract signature.			
Reviewer's Assessment of State's Planned Response: BerryDunn accepts the State's planned response.			
Updates Discussed During Presentation of Findings:			

Risk #: #4	Risk Likelihood/Probability: High	Risk Impact: High	Overall Risk Rating: High
Source of Risk: Interviews with Project management and ADS			
<p>Risk Description: Provi has not completed an implementation with a State agency, and there appears to be contract negotiation difficulties between Provi and the State.</p> <p>BerryDunn learned during its review of Provi’s proposal and confirmed in interviews with Project management and ADS that Provi has not previously implemented its solution with another government entity. While Provi noted in its proposal that it “hosts the price posting and delinquency management platform for the New York State Liquor Authority, and supplies the New Hampshire Liquor Commission with product content for their own B2B eCommerce website,” when asked in the State’s RFP “Have you implemented the proposed solution for other government entities? If so, tell us who, when, and how that implementation went?” Provi responded “No” and did not provide any additional context.</p> <p>BerryDunn understands the Project received a demonstration from Provi from another state government (Ohio) to help better visualize how the State’s solution might be configured. However, BerryDunn understands from conversations with the Project manager that the State of Ohio has not yet contracted with Provi and has spent more than a year in contract negotiations due to being unable to agree upon planned requirements, implementation schedule phases, and other details vital for helping ensure the State is able to manage expectations and contractual requirements with its selected vendor. BerryDunn understands from conversations with the Project manager and ADS IT that the State is currently experiencing similar difficulties with Provi during contract negotiations.</p>			
State’s Planned Risk Strategy: Accept			
State’s Planned Risk Response: The department feels confident moving forward with recent developments in contract negotiations with recent developments.			
Timing of Risk Response: N/A			
Reviewer’s Assessment of State’s Planned Response: BerryDunn accepts the State’s planned response.			
Updates Discussed During Presentation of Findings:			

Attachment 3 – State’s Risk Mitigation Memorandum

Please note: the following is the unedited memorandum received by BerryDunn from the State regarding the State’s mitigation efforts for the risks detailed in Attachment 2. BerryDunn did not review, opine on, or verify the accuracy of the State’s response as detailed in the memorandum. BerryDunn recommends the State CIO review these responses before the State considers next steps with the Project.

The following risks were identified in the DLL B2B Independent Review and have been mitigated in response through the following:

1. **Risk Description: The draft contract has related vendor obligations dispersed in various places and described at varying levels of detail.**
 - a. Substantial work has been done to clarify requirements, align requirements to phases and align phases to milestone payments. Attachment A Section 1 aligns each functional requirement to a phase. Section 7.2 Major Phases details the project phases.
 - b. All vendor comments related to requirements have been removed from the contract.
 - c. The contract has been finalized, approved by both the vendor and the State, and is ready for signing.
2. **Risk Description: The Project does not yet have clear plans to perform Organizational Change Management (OCM) efforts.**
 - a. The State does not have a current OCM practice in place. The State is working to mature the operating model to include these services. At this time, OCM will follow the ‘train the trainer’ approach, with the vendor training DLL staff, and DLL will be expected to manage OCM activities through a project communications plan.
3. **Risk Description: The draft contract’s one-month period (occurring immediately prior to go-live) might not be enough time to conduct Provi’s testing activities, the State’s testing activities, and end-user training.**
 - a. Risk has been mitigated by expanding solution integration testing to 4 weeks, removing the time box for state led UAT testing, and providing 4 weeks for train the trainer activities.
 - b. Risk has further been mitigated by adding a pilot phase (1A) to deploy the solution to selected pilot stores prior to a statewide rollout. Both the pilot phase and full rollout phases contain the activities and timeframe identified in (a.) above.
4. **Risk Description: Provi has not completed an implementation with a State agency, and there appears to be contract negotiation difficulties between Provi and the State.**
 - a. Mitigations started with in-person meetings with the ADS, DLL, and Provi teams on 01/24/24 and 01/25/24. During these sessions, Provi was able to get a better understanding of the scope of work, dependencies, outstanding items, and state contractual requirements.

- b. After the in-person meetings, weekly contract working sessions were held to review all functional and non-functional requirements to assure the requirements are clear in the contract and to allow for proper milestones to be determined and incorporated into the contract.
- c. The State accepts the risk of Provi not having completed a State implementation prior to this as they are able to provide key functionality that no other vendor can provide. In addition, ADS will be diligent in monitoring the implementation as we move forward to address any potential issues quickly and adjust as needed.