Local Data Solutions

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DLR Procurement Management System (DLR PMS)

Project Proposal

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Contents

Overview

The enterprise-level, cloud-based West Virginia DLR Procurement Management System is a tool designed for the Division of Land Restoration (DLR). This workflow and data management system will enable staff to create forms and automate and improve request and approval processes that are currently cumbersome and outdated. Additionally, it will allow staff to track project design, construction, maintenance, open-end contracts, grants, budgets, expenditures, workloads, and assignments within a single, user-friendly platform.

Company Overview

Local Data Solutions, LLC (LDS), is a software development company based in Morgantown, West Virginia, serving local, state, and federal agencies as well as West Virginia businesses. We provide cost-effective software design, development, and Microsoft Azure based cloud-hosting services. Our approach to software development ensures that businesses and institutions can leverage modern technologies to address everything from simple web presence to the most complicated business processes. Every application LDS develops is uniquely tailored to each customer's needs and business model.

Established in 2008 by Senior Software Developers Ty Petrice and Parmjit Singh, LDS has a strong foundation in software development and project management. Both Ty and Parmjit have worked on several major projects at LDS while simultaneously advancing their development skills through contracts with the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health (NIOSH). They have been involved in developing a wide range of software applications for public health and safety, covering areas from mining safety to publications and website control, to the health aftereffects from the collapse of the World Trade Center on 9/11. Over the last 15+ years, they have worked on dozens of small, medium, and large systems for the Health Effects Laboratory Division and the Division of Safety Research, serving as project leads and managing numerous other software developers and supporting staff.

A custom application solution requires professional planning from the beginning, and our experienced analysts and programmers have a comprehensive understanding of the technical and personal aspects involved in software development, including requirements analysis, UX/UI design approaches, programming, system infrastructure, and more. Our highly trained team uses modern and proven technologies to determine and address your organization's needs. LDS maintains cyber liability insurance of at least $5,000,000 for hosting secure data in systems that we develop.

Technical Approach

Local Data Solutions will develop a custom Procurement Management System (PMS) tailored to the specific needs of the West Virginia Department of Environmental Protection, Division of Land Restoration (DLR). This software solution aims to streamline and automate the procurement processes within the agency, enhancing efficiency, ensuring compliance, and supporting strategic decision-making.

By consolidating a wide range of features, the PMS will enable DLR to manage spend data for specific projects, handle contract dates, oversee staff assignments and workloads, and more. Below is a comprehensive overview of the key components and benefits of the proposed system.

Technologies Overview

Our project will utilize a modern, integrated technology stack to ensure scalability, high performance, maintainability, and seamless user interaction. This combination of frameworks, cloud infrastructure, and tools provides a comprehensive foundation to meet both current and future business needs. Below is an overview of the key technologies used:

Backend Technologies

- ASP.NET Core: ASP.NET Core will be the primary backend framework, providing a lightweight, modular, and high-performance environment for building scalable web applications and APIs. Its cross-platform support and integration with cloud services make it ideal for modern development.
- C# Programming Language: C# will be used for implementing business logic, API development, and backend services. Known for its strong typing, reliability, and extensive libraries, C# enables the development of efficient, maintainable, and robust software components that move data in and out of various data sources.
- Web API with Application Insights: The Web API, built with ASP.NET Core, will expose backend data and services through RESTful endpoints, facilitating communication between the frontend and backend, as well as external integrations. Azure Application Insights will be integrated into the Web API to provide real-time monitoring, performance tracking, and diagnostics. This helps identify bottlenecks, track API usage, detect issues, and improve the overall performance and reliability of the application.
- SQL Server Database (Azure-hosted): Azure SQL Database will serve as the primary data storage for structured data, offering robust relational database features such as stored procedures, transactions, and query optimization. The database will be highly available, scalable, and secure, with automatic backups and disaster recovery provided by Azure.

Frontend Technologies

- Angular: Angular will be used for developing a responsive and dynamic frontend interface. Its modular architecture, two-way data binding, and built-in dependency injection ensures high performance and maintainability.
- TypeScript: TypeScript, a typed superset of JavaScript, enhances developer productivity by enabling static type checking, better tooling support, and improved code maintainability. It integrates seamlessly with Angular, ensuring a stable and scalable frontend codebase.
- Bootstrap: Bootstrap will be used to develop a mobile-friendly and consistent user interface with pre-built components and responsive grid systems, speeding up development without compromising design.

Cloud Technologies

- Azure Cloud Hosting: The entire solution will be hosted on Azure Cloud, providing high availability, scalability, and security. Azure's load balancing, automated scaling, and disaster recovery features ensure consistent performance under varying workloads.
- Azure SQL Database: SQL Server on Azure will store and manage structured data for the application. This cloud-based database offers high availability, automatic backups, and built-in security features, making it a reliable solution for transactional data storage.
- Azure Cloud Storage: Azure Blob Storage will be used for managing unstructured data such as documents and media files. With built-in redundancy and seamless integration with other Azure services, it ensures data durability and availability.
- Azure Functions: Azure Functions will enable the development of event-driven, serverless components to handle specific triggers, such as API calls or data changes. This ensures scalability and reduces infrastructure overhead by running code only when needed.
- Azure Logic Apps: Azure Logic Apps will automate workflows, enabling seamless integration between internal systems and third-party services. This improves efficiency and reduces manual effort by automating complex processes.

System Key Features and Functionalities

Spend Data Management for Specific Projects

- Project-Based Budgeting: Allocate and monitor budgets for individual land restoration projects in real time.
- Detailed Expenditure Tracking: Track spending on specific items or services within projects, categorized by cost types such as materials, labor, and equipment.

- Reporting and Analytics: Generate custom reports to analyze project spending, budget variances, and cost trends.
- Integration with Project Management Tools: Sync procurement data with existing project management software for a unified overview.

Contract Management

- Contracts Awarded: Streamline the creation, awarding, and management of contracts with suppliers and service providers.
- Contract Spend Monitoring: Track expenditure under contracts to ensure alignment with budgets and terms.
- Contract Dates Management: Monitor award dates, expiration dates, and renewal options with automatic reminders to prevent lapses.
- Compliance and Risk Management: Ensure contracts meet legal requirements, environmental regulations, and organizational policies specific to DLR operations.

Grant Drawdown Management

- Fund Allocation and Tracking: Assign grant funds to specific projects or initiatives and monitor their utilization.
- Compliance Enforcement: Embed grant conditions into the system to validate allowable expenses automatically.
- Automated Drawdown Requests: Schedule and process drawdown requests with necessary documentation to facilitate timely funding.
- Financial Integration: Sync with accounting systems for accurate financial reporting and reconciliation, ensuring transparency and accountability in fund usage.

Staff Assignments and Workloads

- Task Assignment and Tracking: Allocate procurement and project-related tasks to staff based on roles and expertise, ensuring optimal resource utilization.
- Workload Management: Visualize team workloads to balance tasks, prevent employee burnout, and improve productivity.
- Collaboration Tools: Facilitate communication and collaboration among team members within the system, enhancing coordination across departments.
- Performance Metrics: Track key performance indicators to assess individual and team efficiency, supporting continuous improvement.

Procurement Process Management

- Orders Placed: Manage the creation and submission of purchase orders to suppliers, automating manual processes.
- Invoices Processed: Automate invoice validation, approval, and integration with financial systems to expedite payments.
- Requests Submitted and Processed: Streamline the submission and approval of purchase requisitions and requests, enhancing transparency.
- Procurement Status Monitoring: Provide real-time visibility into all procurement activities through dashboards and reports, enabling proactive management.

Purchase Order Aging Reports

- Aging Analysis: Monitor outstanding purchase orders categorized by the length of time they have been open, helping identify delays and bottlenecks.
- Supplier Performance Evaluation: Assess supplier reliability and delivery performance to inform future procurement decisions.
- Operational Efficiency: Detect inefficiencies in the procurement process and implement corrective actions.

Comprehensive Contract Dates Management

- Award Dates Recording: Log official contract start dates to track lifecycles from inception.
- Expiration and Renewal Tracking: Monitor contract end dates and renewal options with automatic reminders to prevent unintended lapses.
- Renewals Remaining: Keep track of remaining renewal options and associated terms to facilitate strategic planning.
- Compliance Assurance: Ensure adherence to contractual obligations and regulatory requirements, reducing legal and financial risks.

Design Overview

The proposed system is a web-based solution hosted on Azure Cloud that leverages a robust, modern technology stack to deliver a secure, scalable, and role-based operational platform. It ensures seamless integration with existing State Employee accounts, flexible access across devices, and comprehensive role-based modules tailored to specific operational needs. Below is a detailed breakdown of the key design elements.

System Architecture

The system will be a web-based application hosted on Azure Cloud with a SQL Server database to ensure high availability, scalability, and security.

Application Network Diagram

- **Login Integration**:
  - Single Sign-On (SSO) integration with existing **State Employee accounts**, ensuring seamless access using existing credentials.
  - **Multifactor Authentication (MFA)** to enhance security, protecting sensitive operations and data.
- **Accessibility**:
  - The system will be accessible through any web browser via a dedicated URL.
  - It will support access from any device with an internet connection, including desktops, tablets, and mobile devices.

Role-Based Custom Modules

The system is designed with a set of custom modules, each tailored to specific operational areas and user roles. Role-Based Access Control (RBAC) ensures that only users have access to the modules, features, and data relevant to their roles and responsibilities, enhancing both security and usability. Each module will have its own workflows, reporting capabilities, and search tools to facilitate efficient task management. Modules will be designed according to system requirements and legacy data imported into the new structure. Below is a breakdown of the modules and how role-based access will be applied:

Operational Modules

Dashboard (Personalized Overview)
- **Role-specific Work Items**: Users will see tasks assigned to them or their team.
- **Notifications**: Alerts for tasks, deadlines, and approvals relevant to the user's role.
- **Reporting Graphs**: Customized visual reports tailored to user roles (e.g., staff members see individual tasks, managers see team performance).

Projects Module
- **Overview**: Manages the lifecycle of various projects, including planning, tracking, and completion.
- **Role-Specific Access**:
  - **Project Managers**: Can create, update, assign tasks, and track project progress.
  - **Team Members**: Can view assigned tasks and update task statuses.
  - **Administrators**: Can access all projects for auditing or reporting purposes.

Contract Awards Module
- **Overview**: Manages the awarding of contracts, tracking vendor information, and compliance.
- **Role-Specific Access**:

- o **Procurement Officers**: Can initiate and manage contract awards.
- o **Managers**: Review and approve contract awards.
- o **Auditors**: View contract history for compliance purposes.
- **Workflow**: Automates the review and approval process based on roles, ensuring accountability at each step.

Contracts Module

- **Overview**: Monitors the execution and renewal of contracts, ensuring compliance with terms.
- **Role-Specific Access**:
  - o **Contract Managers**: Can create, modify, and track contract milestones.
  - o **Supervisors**: Approve or reject contract modifications.
  - o **Administrators**: Full access to contract data for reporting.
- **Search and Reporting**: Generate compliance reports or track contract renewals, accessible according to role permissions.

Procurement Module

- **Overview**: Manages procurement requests, vendor information, and approvals.
- **Role-Specific Access**:
  - o **Staff**: Submit purchase requests and track their status.
  - o **Supervisors**: Review and approve or reject requests.
  - o **Procurement Managers**: Oversee the entire procurement process and manage vendor relationships.
- **Automated Workflow**: Ensures procurement requests flow through approval hierarchies based on roles.

Grants Module

- **Overview**: Handles grant applications, funding disbursements, and reporting.
- **Role-Specific Access**:
  - o **Grant Officers**: Manage applications, track funding, and communicate with stakeholders.
  - o **Finance Team**: Monitor funding disbursement and manage financial reports.
  - o **Auditors**: Access grant data for compliance review.
- **Reporting Tools**: Role-specific access to financial summaries, grant status, and performance reports.

Staff Assignments Module

- **Overview**: Manages staff scheduling, task assignments, and workload tracking.
- **Role-Specific Access**:
  - o **Supervisors**: Assign tasks, monitor staff workload, and track performance.
  - o **Staff Members**: View individual assignments and update task progress.

- Administrators: Full access to assignment data and reporting tools.
- **Performance Reports**: Generates workload distribution and performance reports based on user roles.

Reporting Module (Administrative Reports)

- **Overview:** The Reporting Module will offer comprehensive reporting features for monitoring and managing system operations. Generate real-time and historical reports for administrative functions.
- **Operations Management**: Performance metrics across different modules and workflows.
- **Compliance Reporting**: Track adherence to policies and procedures.
- **User Activity Reports**: Monitor user actions, login activity, and task progress.

Administration Operations

The administrative tools will enable system administrators to manage accounts, data, and system notifications.

- **Account Management**: Manage user roles, permissions, and account settings.
- **Data Management**: Import and export data, manage backups, and ensure data consistency.
- **Notification Management**: Configure notifications, alerts, and reminders for key events.
- **User Access Logs**: Maintain an audit trail of user actions and login attempts for compliance and security.

Security and Compliance

- **Azure Cloud Security**: Leverage Azure's built-in security features, including data encryption, identity management, and network security.
- **Multifactor Authentication (MFA)**: Ensure secure access to the system with an additional layer of authentication.
- **Role-Based Access Control (RBAC) Benefits:**
- **Security**: Users only have access to the data and features they need, minimizing exposure to sensitive information.
- **Usability**: Role-based dashboards and workflows reduce clutter, ensuring users interact only with relevant tasks and reports.
- **Accountability**: Role-specific workflows ensure tasks are routed to the appropriate users, providing a clear chain of responsibility.
- **Flexibility**: Roles can be adjusted or expanded as the organization's needs evolve, ensuring the system remains adaptable.

System Summary

The proposed system will provide a secure, accessible, and scalable platform hosted on Azure Cloud. With role-based modules, users will have access to workflows and tools tailored to their responsibilities, enhancing operational efficiency. The integration of custom dashboards, comprehensive reporting, and administrative tools will allow for effective management and decision-making. Additionally, login integration with State Employee accounts and MFA will ensure secure access, protecting sensitive data and operations.

This design ensures the system meets the requirements for both functionality and security while providing a future-proof platform for ongoing development and improvement.

Project Timeline

Our software development process begins with a comprehensive understanding of the customer's existing processes and data structures. This crucial step involves close collaboration with stakeholders to gain insight into their operations, challenges, and goals. Through interviews, workshops, and documentation reviews, we identify inefficiencies in the current system and potential areas for improvement.

Requirement Gathering and Scope Definition

From the insights gained, we work with stakeholders to define the functional and non-functional requirements of the new system. These requirements encompass both the business needs, and the technical specifications required to ensure the system aligns with the customer's objectives. We also define the project scope by setting boundaries for what will and will not be included in the system. This step ensures clarity, prevents scope creep, and establishes a shared understanding among all parties.

Deliverables:
- Requirement Specification Document
- Project Scope Statement

System Design: Data Structures and Project Architecture

Once the requirements are solidified, we proceed with developing the data structure and a project shell. This involves creating:
- Database models and schemas to organize and store data efficiently.
- Class diagrams, API structures, and business logic models to define how different components will interact within the system.
- A high-level project architecture, including the selection of frameworks, tools, and technologies best suited for scalability, security, and performance.

At this stage, we create mockups or wireframes to visualize the user interface (UI) and ensure the design aligns with customer expectations.
Deliverables:
- Entity Relationship Diagrams (ERDs)
- Data Dictionary
- System Architecture Blueprint
- UI Mockups

Data Import Process

The data import process plays a vital role in ensuring a smooth transition from legacy systems to the proposed platform. It involves carefully planned steps to extract, transform, and load

(ETL) data into the new system while preserving accuracy, integrity, and consistency. The goal is to seamlessly integrate existing data into the Azure SQL Database. This provides the iterative development foundational data that can be reviewed in the new system structure.

Data Assessment and Planning
- **Data Inventory and Mapping**: Identify all relevant datasets from the legacy system and map data fields to align with the new data structure.
- **Stakeholder Collaboration**: Work closely with stakeholders to confirm required datasets, dependencies, and business rules.
- **Gap Analysis**: Identify missing or redundant data elements and document any discrepancies to ensure data consistency.

Data Transformation and Cleansing
- **Schema Transformation**: Convert legacy data to match the new Azure SQL Database schema, including data type conversions and normalization.
- **Data Cleansing**: Apply automated rules to remove duplicates, correct inconsistencies, and format data according to business rules.
- **Validation and Enrichment**: Use validation scripts to ensure completeness, and where necessary, enrich data with missing values.

Data Import into Azure SQL Database
- **Import Process**: Import data in a repeatable process to allow refining the import process as legacy data issues are identified.
- **Functional Testing**: Ensure workflows, reporting, and search capabilities function correctly with the imported data.
  Deliverables:
- SQL Server database containing legacy data loaded into new data structure.

Development and Iterative Prototyping

Once the system design is in place, we start to develop a functional project shell as the foundation of the software. Development follows an Agile approach, allowing for flexibility and collaboration throughout the process. We break the project into smaller, manageable modules or sprints, focusing on developing, testing, and refining features iteratively.

During each sprint, we prioritize:
- Frontend and backend development to ensure seamless integration.
- Regular code reviews to maintain code quality and consistency.

Deliverables:
- Functional Prototype
- Sprint Backlogs and Burn-Down Charts
- Code Repository and Documentation

Testing and Quality Assurance (QA)

After development, the system undergoes rigorous testing and quality assurance. This step ensures the software performs as expected in different environments and scenarios. We conduct:

- System testing to identify and resolve bugs.
- Performance testing to ensure the system can handle the required load.
- User acceptance testing (UAT) to confirm the software meets the customer's expectations and requirements.

Deliverables:
- Test Cases and Results
- UAT Feedback Reports

Deployment and Go-Live

Once testing is complete, we proceed with deployment. This includes:

- Setting up production environments and databases.
- Migrating any existing data to the new system.
- Ensuring integration with other systems if required.

We monitor the system during the go-live phase to resolve any issues promptly and ensure a smooth transition. Training sessions are conducted to familiarize end-users with the system.
Deliverables:
- Deployed Software in Production
- Data Migration Reports
- User Training Materials

Maintenance and Continuous Improvement

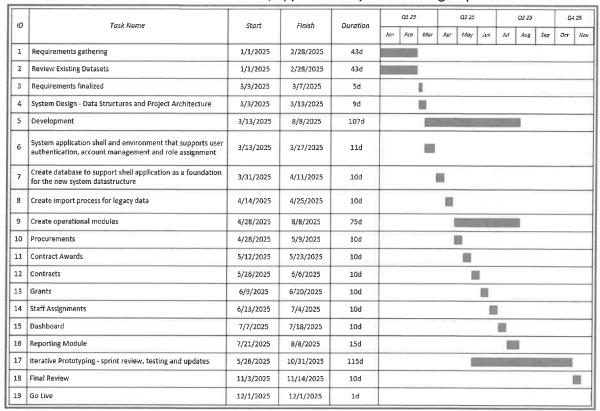Our commitment does not end with deployment. We offer ongoing support and maintenance to address issues, apply updates, and implement new features as needed. Through continuous feedback loops, we ensure the software evolves with the customer's needs and remains aligned with their business objectives.
Deliverables:
- Maintenance Plan and Service-Level Agreements (SLA)
- Change Logs for Updates and Patches
- Feedback Loop Reports

Suggested Timeline Chart

Total time from start to release 11 months, approximately 241 working days.

ID	Task Name	Start	Finish	Duration	Q1 25			Q2 25			Q3 25			Q4 25	
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	Requirements gathering	1/1/2025	2/28/2025	43d											
2	Review Existing Datasets	1/1/2025	2/28/2025	43d											
3	Requirements finalized	3/3/2025	3/7/2025	5d											
4	System Design - Data Structures and Project Architecture	3/3/2025	3/13/2025	9d											
5	Development	3/13/2025	8/8/2025	107d											
6	System application shell and environment that supports user authentication, account management and role assignment	3/13/2025	3/27/2025	11d											
7	Create database to support shell application as a foundation for the new system datastructure	3/31/2025	4/11/2025	10d											
8	Create import process for legacy data	4/14/2025	4/25/2025	10d											
9	Create operational modules	4/28/2025	8/8/2025	75d											
10	Procurements	4/28/2025	5/9/2025	10d											
11	Contract Awards	5/12/2025	5/23/2025	10d											
12	Contracts	5/26/2025	6/6/2025	10d											
13	Grants	6/9/2025	6/20/2025	10d											
14	Staff Assignments	6/23/2025	7/4/2025	10d											
15	Dashboard	7/7/2025	7/18/2025	10d											
16	Reporting Module	7/21/2025	8/8/2025	15d											
17	Iterative Prototyping - sprint review, testing and updates	5/26/2025	10/31/2025	115d											
18	Final Review	11/3/2025	11/14/2025	10d											
19	Go Live	12/1/2025	12/1/2025	1d											

Professional History

LDS has developed multiple significant projects for West Virginia University (WVU) and WVDHHR:

WVU Birth Score Database (WVU & WV DHHR)

Dashboard and Client Application (**2015 – present**)

LDS is hosting and implementing new features for the Birth Score database system for the WVU Research Corporation and the **West Virginia Department of Health and Human Resources (WVDHHR)**. This system collects childbirth information from more than 35 hospitals and clinics across the state of West Virginia. The collected data are used to identify and track infants who are at the highest risk for health and developmental problems, to ensure these children have access to appropriate health and special-care systems. The hospital uses a screening checklist to identify babies with a greater likelihood of health problems in the first year of life. The families of at-risk children residing in West Virginia will be referred to doctors of their choice, as well as to **Office of Maternal, Child, and Family Health (OMCFH)** Health Check Program

Specialists, or Right From The Start Program nurses or social workers (called Designated Care Coordinators), who are available to offer information and support services.

LDS significantly expanded this system's capabilities and functionality, while ensuring it also complies with HIPAA and meets or exceeds federal information-technology security requirements.

West Virginia Foster Care Ombudsman System (FCO, OIG)
Landing Page and Assistance Request Application (**2023 – present**)

The West Virginia Foster Care Ombudsman System (FCO, Office of Inspector General) is a newly established service dedicated to child welfare, specifically focused on advocating for the rights of foster children and foster parents. Its core responsibilities include investigating and resolving complaints on behalf of foster children or foster parents, monitoring the development and implementation of federal, state, and local policies related to foster care, and ensuring a consistent statewide reporting system that collects and analyzes data on these complaints. This data-driven approach aims to identify and address systemic issues that impact foster children and foster parents as a group.

The system supports Foster Care Ombudsman (FCO) investigators by providing the tools needed to generate and distribute both standard and customized reports to meet the needs of diverse stakeholders. It allows FCO investigators to efficiently receive, evaluate, refer, assign, monitor, investigate, and document child welfare concerns, complaints, and other systemic issues as identified by the FCO or recommended by stakeholders within and outside state government. This comprehensive approach enhances transparency, accountability, and effectiveness in addressing the challenges faced by the foster care community.

West Virginia Newborn Hearing Screening (NHS)
Dashboard and Client Application (**2016 – present**)

In 1998, the **West Virginia state legislature amended Chapter Sixteen of the Code of West Virginia by adding Articles 22A and 22B.** Article 22A requires the testing of newborn infants for hearing loss and requires that physicians or midwives attending a live birth ensure that a test for hearing loss is performed. Article 22B authorizes the Bureau for Public Health to establish and implement the Birth Score program and requires that hospitals, birthing facilities, attending physicians, and other persons attending a birth determine a birth score.

LDS has recently developed and is hosting the Newborn Hearing Screening system, a case-management system for the **WVDHHR**. This system is designed to automate and simplify many of the tasks related to managing infants with hearing loss or impairment. In addition, the system produces annual reports that will be submitted to the CDC. This system is **HIPAA-compliant** and meets or exceeds federal information-technology security requirements.

West Virginia Prenatal Risk Screening Instrument (PRSI)

Dashboard and Client Application **2019-present**

The **West Virginia Prenatal Risk Screening Instrument (WV PRSI)** is the tool REQUIRED by WV law to be submitted by every maternity provider of care for women in West Virginia. The PRSI is required for all West Virginia women on their initial obstetrical visit regardless of payment source. Providers shall notify the woman of any identified high-risk conditions and provide referrals as necessary. All information is used only for data analysis of at-risk/high-risk pregnancies and planning purposes by public health officials.

LDS is in process of developing and is hosting the WV PRSI system, **a case-management system** for the **WVDHHR.** This system is designed to automate and simplify many of the tasks related to managing PRSI instrument data. In addition, the system will produce annual reports that will be submitted to the CDC. The application will be composed of two separate interfaces. The first interface is for internal administrators of the system. The administrators be able to manage all user roles, approve/deny medical provider registration upon their own internal verification process, manage medical provider password resets, and review/report on submissions. The second interface is for the medical providers. Medical providers be able to apply for an account, manage their account information, request a password reset, create, edit, manage and submit PRSI forms. This system is **HIPAA-compliant** and meets or exceeds federal information-technology security requirements.

WVU Center for Excellence in Disabilities (CED, WVU)

Dashboard Application **2017 - present**

Established in 1978, the **Center for Excellence in Disabilities (CED)** is in Morgantown, West Virginia and has a satellite office in Big Chimney, West Virginia with staff located in offices across the state to better serve clients in their communities. CED serves as a resource to the community in the areas of education, research and service as it relates to the needs of people with disabilities.

WVU Center of Excellence for Disabilities web-based system consolidates the current databases supporting 20+ programs under one unified umbrella. This consolidation leads to a unified view of the member/client medical data records across different programs.

Faculty And Compensation Tracking System (FACTS, WVU)

Dashboard Application **2019 - present**

The **West Virginia University School of Medicine** tool to manage faculty compensation tracking. The application migrated and duplicated the legacy MS Access database functionality,

added role-based access, and provide additional functionality such as tracking history of changes. This system is designed to automate and simplify many of the tasks related to faculty, residents and courtesy members onboarding, contracts documentation, management, and reporting requirements. The system integrates with Multi-factor Authentication implemented and used by HSC Information Technology Services seamlessly. This system is also **HIPAA-compliant** and meets or exceeds federal information-technology security requirements.

West Virginia Center for End-of-Life Care (WV EoL, WVU)
<u>Dashboard</u> Application **2018 - present**

The WV e-Directive Registry, established by the WV Center for End-of-Life Care, allows patients to securely store their advance care planning forms and have them readily available for treating health care providers. The e-Directive Registry is the nation's most comprehensive database of its kind. LDS has developed and hosting e-Directory Registry management system for WV EoL, WVU that simplifies, organize, and manages data workflows for patient documents and information. This Registry management system houses and makes available to treating health care providers West Virginians' advance directive forms, do not resuscitate (DNR) cards, and POST forms. The e-Directive Registry allows these forms to be available 24/7 in the event of an emergency.

Why we choose Microsoft Azure Secure Applications Platform

Historically, businesses have struggled to provide fully regulated or standard-compliant system solutions due to significant investment and resource requirements. LDS staff will leverage their enterprise-level expertise to address this challenge by creating a Secure Application Platform on the Microsoft Azure cloud platform, meeting the highest security standards. This platform will securely host applications handling highly sensitive data, including Personally Identifiable Information (PII) and Protected Health Information (PHI).

Once established, the Secure Application Platform will serve as the core of a secure and accredited environment, offering a flexible solution for the Department's current system and future applications. Designed to comply with internal agency policies, state and federal laws, and healthcare standards, the environment can co-locate similar applications with equal or lower data classification. This co-location can leverage certified servers, provided a full integration assessment by LDS identifies no system conflicts or competing needs with existing applications. LDS has chosen to utilize Microsoft Azure because it offers the following advantages (cited from http://azure.microsoft.com/en-us/support/trust-center):

Design and Operational Security

- **Security Centers of Excellence.** The Microsoft Digital Crimes Unit, Microsoft Cybercrime Center, and Microsoft Malware Protection Center provide insight into evolving global security threats.

- **Security Development Lifecycle (SDL).** Since 2004, all Microsoft products and services have been designed and built from the ground up using its Security Development Lifecycle - a comprehensive approach for writing more secure, reliable and privacy-enhanced code.

- **Operational Security Assurance (OSA).** The Microsoft OSA program provides an operational security baseline across all major cloud services, helping ensure key risks are consistently mitigated.

- **Assume Breach.** Specialized teams of Microsoft security engineers use pioneering security practices and operate with an "assume breach" mindset to identify potential vulnerabilities and proactively eliminate threats before they become risks to customers.

- **Incident Response.** Microsoft operates a global 24x7 event and incident response team to help mitigate threats from attacks and malicious activity.

Security Controls and Capabilities

- **24-hour monitored physical security.** Datacenters are physically constructed, managed, and monitored to shelter data and services from unauthorized access as well as environmental threats.

- **Monitoring and logging.** Security is monitored with the aid of centralized monitoring, correlation, and analysis systems that manage the large amount of information generated by devices within the environment and provide timely alerts. In addition, multiple levels of monitoring, logging, and reporting are available to provide visibility to customers.

- **Patching.** Integrated deployment systems manage the distribution and installation of security patches. Customers can apply similar patch management processes for Virtual Machines deployed in Azure.

- **Antivirus/Antimalware protection.** Microsoft Antimalware is built into Cloud Services and can be enabled for Virtual Machines to help identify and remove viruses, spyware and other malicious software and provide real time protection. Customers can also run antimalware solutions from partners on their Virtual Machines.

- **Intrusion detection and DDoS.** Intrusion detection and prevention systems, denial-of-service attack prevention, regular penetration testing, and forensic tools help identify and mitigate threats from both outside and inside of Azure.

- **Zero standing privileges.** Access to customer data by Microsoft operations and support personnel is denied by default. When granted, access is carefully managed and logged. Data center access to the systems that store customer data is strictly controlled via lock box processes.

- **Isolation.** Azure uses network isolation to prevent unwanted communications between deployments, and access controls block unauthorized users. Virtual Machines do not receive inbound traffic from the Internet unless customers configure them to do so.

- **Azure Virtual Networks.** Customers can choose to assign multiple deployments to an isolated Virtual Network and allow those deployments to communicate with each other through private IP addresses.

- **Encrypted communications.** Built-in SSL and TLS cryptography enables customers to encrypt communications within and between deployments, from Azure to on-premises datacenters, and from Azure to administrators and users.

- **Private connection.** Customers can use ExpressRoute to establish a private connection to Azure datacenters, keeping their traffic off the Internet.

- **Data encryption.** Azure offers a wide range of encryption capabilities up to AES-256, giving customers the flexibility to implement the methods that best meet their needs.

- **Identity and access.** Azure Active Directory enables customers to manage access to Azure, Office 365 and a world of other cloud apps. Multi-Factor Authentication and access monitoring offer enhanced security.

Independent Verification

By providing customers with compliant, independently verified cloud services, LDS and Microsoft make it easier for customers to achieve compliance for the infrastructure and applications they run in Azure. Microsoft provides Azure customers with detailed information about security and compliance programs, including audit reports and compliance packages, to help customers assess Azure services against their own legal and regulatory requirements.

In addition, Microsoft has developed an extensible compliance framework that LDS utilizes to enable us to design and build services using a single set of controls, to speed up and simplify compliance across a diverse set of regulations and rapidly adapt to changes in the regulatory landscape. More information on specific compliance programs is available here:

https://www.microsoft.com/en-us/TrustCenter/Compliance/default.aspx.

- ISO 27001/27002
- SOC 1/SSAE 6/ISAE 3402 SOC 2
- Cloud Security Alliance CCM
- FedRAMP
- FISMA
- FBI CJIS (Azure Government)
- PCI DSS Level 1
- HIPAA
- CDSA
- Food and Drug Administration 21 CFR Part 11
- FERPA
- FIPS 140-2
- CCCPPF

Contact Information and Staffing

Business/Contractual Contacts

Name	Ty Petrice, MSE
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Technical Resources Contacts

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References

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Name	Sharon Hill
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Project	Project Watch
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Name	Elizabeth Hardy
Position	Acting Director, Office of Inspector General Foster Care Ombudsman
Project	Foster Care Ombudsman (FCO)
Phone	304-352-0792
Email	elizabeth.m.hardy@wv.gov

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Ty Petrice CEO

(Address) 144 Scenery Dr., Morgantown, WV 26505

(Phone Number) / (Fax Number) 304-641-1767 / 304-205-0676

(email address) ty@localdatasolutions.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through *wv*OASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Local Data Solitions

(Company)

(Signature of Authorized Representative)

Ty Petrice, CEO, 10/14/2024

(Printed Name and Title of Authorized Representative) (Date)

304-641-1767 / 304-205-0676

(Phone Number) (Fax Number)

ty@localdatasolutions.com

(Email Address)

Revised 8/24/2023

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

☑ Addendum No. 1	☐ Addendum No. 6
☑ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Local Data Solutions

Company

Authorized Signature

10/14/2024

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Revised 8/24/2023