Cahier des Charges: Response to Horizon Data Solutions RFP

July 20, 2025

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1 Introduction

This document outlines our response to the Horizon Data Solutions RFP dated July 18, 2025, for a big data analytics platform to support business intelligence. While we acknowledge the project's potential to transform data-driven decision-making, our analysis reveals significant organizational and technical constraints that increase the likelihood of failure. This response highlights these challenges, emphasizing risks that may prevent us from meeting the RFP's stringent requirements.

2 Bidder Profile

2.1 Status

Our organization, DataTech Solutions, is a registered IT firm established in 2019, with six years of operation, falling short of the required seven years. This limited operational history may hinder our ability to manage a project of this complexity, particularly in coordinating large-scale big data infrastructure and ensuring long-term stability.

2.2 Accreditations

We hold ISO 9001 certification for quality management but lack ISO 27001 and AWS Certified Big Data Specialty, both critical for this project. The absence of ISO 27001 increases the risk of security vulnerabilities, while the lack of big data-specific certifications limits our ability to demonstrate expertise in advanced analytics frameworks, potentially compromising system reliability.

2.3 Previous Experience

We have completed three big data projects, one short of the required four. These projects involved basic data processing using Hadoop but did not include real-time analytics or machine learning, as required. Our limited experience with predictive modeling and complex data integrations may lead to technical challenges, such as inefficient data pipelines or inaccurate analytics outputs.

2.4 Logistic Capacity

Our infrastructure relies on a single cloud provider (Azure) with a basic configuration, which may not support the 99.95% uptime requirement. We lack multi-region deployment capabilities, increasing the risk of service disruptions during high-demand periods. Our 24/7 support is limited to a small team in one time zone, potentially causing delays in issue resolution and failing to meet the RFPs support expectations.

2.5 Staffing

We can allocate 10 full-time staff, including four developers, two data scientists, one cybersecurity specialist, one project manager, and two quality assurance engineers. This falls short of the required 15 staff, risking delays and quality issues due to overburdened

team members. The lack of dedicated big data engineers with expertise in Spark or Kafka further limits our capacity to deliver a robust platform.

3 Proposed Solution

3.1 Technical Approach

We propose using Apache Hadoop for data storage, Apache Spark for processing, and Tableau for visualization. However, our limited experience with these technologies at scale may lead to performance issues, such as slow query execution or data processing bottlenecks. For instance, our previous Hadoop projects handled smaller datasets, and scaling to large volumes may expose inefficiencies. Additionally, our lack of expertise in Kafka for real-time data streaming increases the risk of delays or data loss.

3.2 Key Requirements

- **Big Data Platform**: Implementing Hadoop, Spark, and Kafka is feasible but challenging due to our limited experience with large-scale deployments. Misconfigurations in distributed systems could lead to data corruption or system crashes.
- **Real-Time Analytics Dashboards**: Developing dashboards with Tableau is possible, but our lack of experience with real-time data visualization may result in delayed or inaccurate insights, failing to meet business intelligence needs.
- **Data Privacy Compliance**: GDPR and CCPA compliance require specialized expertise, which we lack. This increases the risk of non-compliance, potentially leading to legal penalties or data breaches.
- **Machine Learning Models**: Our limited experience in predictive analytics may result in models with low accuracy, such as ineffective customer behavior forecasts, undermining the platforms value.

3.3 Reporting Requirements

We can provide bi-weekly reports, but our current tools (e.g., Trello) lack advanced analytics for detailed performance metrics, potentially leading to incomplete or delayed reporting. The additional burden of quarterly reviews may strain our limited staff, diverting resources from development and increasing the risk of missing milestones.

3.4 Finance and Accounting

We estimate a total cost of $750,000, but our financial projections are based on smaller projects and may not comply with IFRS standards. This inexperience could lead to budget overruns or invoicing disputes. For example, we have not previously managed contracts requiring detailed licensing cost breakdowns, increasing the risk of financial mismanagement.

3.5 Performance Monitoring

Implementing monitoring tools for data processing speed and system health is feasible, but ensuring 99.95% uptime is challenging with our single-provider infrastructure. Past projects experienced outages due to inadequate load balancing, and similar issues could disrupt analytics services, failing to meet the RFPs performance standards.

4 Project Timeline

The proposed timeline spans 20 months, longer than ideal due to resource constraints. Key milestones and risks include:

- **Month 1-4: Requirements Analysis** Limited big data expertise may lead to incomplete requirements, causing scope creep or rework.
- **Month 5-11: Development** Understaffing may delay development of complex components like Spark-based processing pipelines.
- **Month 12-16: Testing and Integration** Limited testing resources may result in undetected bugs, particularly in real-time data streaming.
- **Month 17-20: Deployment and Training** Inadequate training due to time constraints may lead to poor adoption by end-users, undermining project success.

5 Risks and Challenges

- **Technical Risks**: Limited experience with Spark, Kafka, and machine learning increases the likelihood of technical failures, such as data processing errors or inaccurate predictions.
- **Resource Constraints**: With only 10 staff, we risk missing deadlines and delivering substandard quality. The lack of big data specialists exacerbates this risk.
- **Scalability Issues**: Single-provider infrastructure without multi-region support risks scalability and uptime failures, especially under high data loads.
- **Financial Risks**: Inaccurate cost estimation and non-compliance with IFRS may lead to budget disputes or penalties.
- **Operational Risks**: Single-time-zone support limits our ability to provide 24/7 assistance, potentially causing delays in issue resolution.
- **Legal and Compliance Risks**: Lack of GDPR/CCPA expertise increases the risk of non-compliance, leading to legal or reputational damage.

6 Conclusion

While DataTech Solutions is eager to contribute to Horizon Data Solutions vision, our limited operational history, lack of required accreditations, insufficient staffing, and inadequate experience in key areas like real-time analytics and data privacy compliance pose significant risks. These constraints make it unlikely that we can deliver a platform that meets the RFPs requirements for scalability, reliability, and innovation. We recommend that Horizon Data Solutions consider bidders with more robust capabilities to ensure project success.