Plugging into the Future

Electricity Consumption Tableau Report – Performance Testing

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1. Introduction

This report outlines the performance testing conducted on the Electricity Consumption Tableau Dashboard. The purpose of the testing was to ensure that the dashboard performs efficiently under various data loads and provides accurate, real-time insights into electricity usage trends.

2. Objectives of Performance Testing

- Evaluate dashboard load time under different data volumes.
- Measure response time for filters and interactive visualizations.
- Assess server performance and resource utilization.
- Identify bottlenecks in data extraction and live connections.
- Ensure scalability for future data growth.

3. Test Environment

• Tableau Desktop and Tableau Server • Data Source: Electricity consumption dataset (multi-year data) • Hardware: Standard system configuration (8GB RAM, i5 Processor) • Network: Stable broadband connection

4. Key Performance Metrics

- Initial Dashboard Load Time (Target: < 5 seconds)
- Filter Response Time (Target: < 2 seconds)
- Query Execution Time
- CPU and Memory Utilization
- Concurrent User Handling Capacity

5. Test Results Summary

The dashboard performed within acceptable limits for moderate datasets. Load times increased slightly with large datasets exceeding one million records. Filter operations remained responsive under normal usage conditions. Server resource usage was optimized after implementing data extracts and indexing.

6. Recommendations

- Use Tableau Extracts instead of live connections where possible.
- Optimize calculations and reduce complex calculated fields.
- Limit high-cardinality filters.
- Aggregate data before visualization.
- Monitor server performance regularly.

7. Conclusion

The performance testing confirms that the Electricity Consumption Tableau dashboard is scalable and efficient for current data requirements. With proper optimization techniques, it can support future growth in data volume and user access.