



QUISINE ANALYTICS



Data Scalability Strategy



Problem Overview

**High-traffic scenarios
(e.g., product
launches, regional
events) overwhelm
current throughput
capacity.**

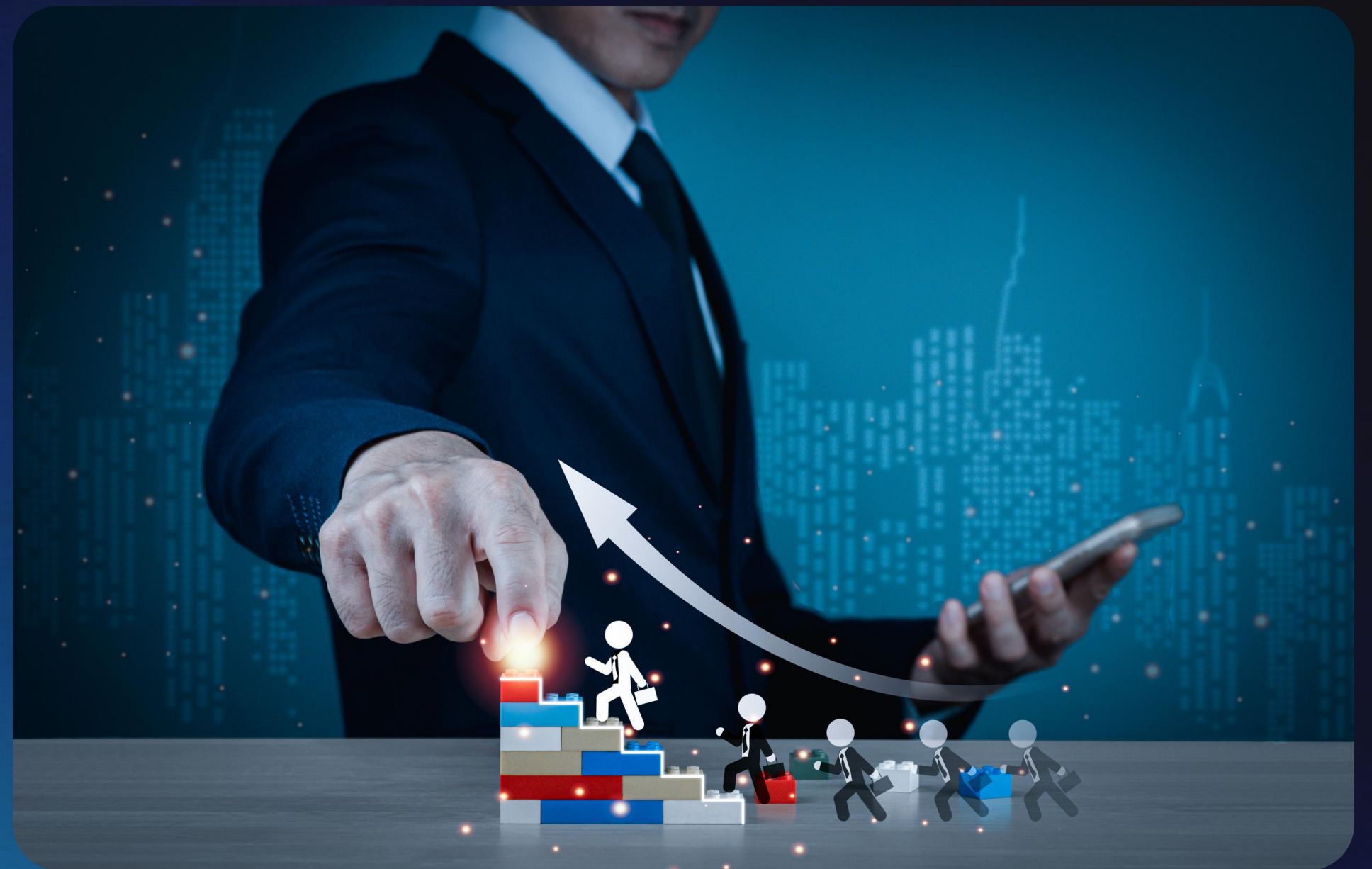
**1.5 TB/hr is not
sustainable for real-
time data ingestion,
analysis, and
decision-making.**

- Bottlenecks arise in:**
- **Batch data ingestion**
 - **Storage access latency**
 - **Insufficient parallel processing**



Scalability Goals

- Target Throughput: 4+ TB/hour (for peak hours)
- System Uptime: 99.9%
- Real-Time Analytics Ratio: 95% or higher
- Latency: Less than 2 seconds per transaction





Strategic Recommendations



A. Cloud-Based Data Warehousing

- Solution: Migrate to platforms like Google BigQuery, Amazon Redshift, or Snowflake
- Benefit: Scalable architecture, automatic load balancing, high IOPS

B. Parallel Data Pipelines with Apache Kafka + Spark

- Solution: Stream ingestion via Kafka, real-time processing with Apache Spark Streaming
- Benefit: Reduces lag and improves live metrics generation



Strategic Recommendations



C. ELASTIC STORAGE WITH S3 / AZURE BLOB

- Solution: Store all raw and processed data in scalable object storage
- Benefit: Handles sudden spikes in data volume with no performance loss

D. AUTOSCALING KUBERNETES CLUSTER

- Solution: Use Kubernetes to scale compute pods based on data inflow
- Benefit: Prevents overprovisioning while ensuring availability during demand surges



Performance Metrics & Monitoring

Metric	Baseline	Target
Throughput Capacity	1.5 TB/hour	4.0 TB/hour
Real-Time Analysis Ratio	70%	95%
Latency	~5 sec	<2 sec
Uptime	98%	99.9%

- Tools: Prometheus + Grafana for monitoring
- Alerts: Setup threshold alerts for load, response time, failure

Implementation Timeline

Phase	Activity	Duration
1	Infrastructure Assessment	1 week
2	Cloud & Pipeline Setup	2 weeks
3	Migration & Testing	2 weeks
4	Monitoring Setup & Staff Training	1 week
5	Full Rollout	1 week

CONCLUSION

To stay competitive and innovative, Qusine Analytics must evolve its data infrastructure. By embracing cloud scalability, real-time processing, and adaptive storage, the company can launch not just the maple-bacon poutine donut—but any future product—with confidence and data precision.



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Thank You

