

# Customer Experience Management platform on LeanXcale

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## Introduction

The telecom market is a battlefield where improving the customer experience and decreasing costs have become key to survive. Despite this, the telecom industry is deemed to deliver the worst customer experience according to a LinkedIn poll, with 39% of the votes. One of the reasons lies in the fact that they stick to traditional infrastructure, keeping them trapped in the limitations of old technology.

Customer Experience Management (CEM) platforms aim at this goal; however, they face many challenges due to:

- The sheer diversity of technologies, suppliers and services, that create a complex operational map.
- The pace at which new services are built and evolved, requiring a swift and adaptive response from the supporting infrastructure.
- The quantity and range of equipment in the network mean installed resources that require careful monitoring and detailed data (for example, on location) and assured availability.

Failing to monitor customer experience results in:

- Customer complaints degrade brand reputation and result in higher churn rates.
- A higher cost of ownership, training, and maintenance.
- Difficulty to support new services or service upgrades.

To avoid all these problems, next-gen CEM platforms should be able to:

- Detect network problems in real time before they scale and result in service degradation or unavailability.
- Full End-to-End capability to monitor, visualize and solve service issues.
- Analyze and identify root-cause problems that can be manifested as several symptoms.
- Unified and centralized system for performance management with smooth integration with other Operations Support Systems (OSSs).
- Perform proactive supervision to perform corrective actions before problems happen.

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## LeanXcale disruptive technology

LeanXcale was founded under the idea of the **database technical excellence**, trying to sort out all the problems that enterprise databases have. This philosophy is in LeanXcale DNA, and it is embodied in all database aspects, being the origin of more than twelve disruptive technologies. The most relevant ones for this scenario are:

- Iguazu: It manages transactions efficiently any scale. LeanXcale patented method to scale out transactional management enables to scale out linearly from one node to hundreds of nodes maintaining all the ACID properties (100 nodes deliver 100x the throughput of a single node).
- HTAP: It allows real-time analytics, visualizations, and decisions with an inexpensive and straightforward architecture. LeanXcale has a distributed data warehouse engine designed to run analytical queries on operational data and delivering the real-time analytics. Thanks to this capacity, it avoids ETLs, which can save up to 80% of the average business analytics cost.
- KiVi: The LeanXcale's storage engine KiVi is designed from scratch to maximize the data ingestion rate. KiVi is a relational key-value store, providing the efficiency and scalability of a traditional key-value, while providing at the same time the capabilities of a SQL engine enabling queries through SQL. Its architecture avoids the cost of thread context switches, thread synchronization, and NUMA remote memory accesses, making it extremely efficient.
- Aggregation online: It allows the database to account KPIs easily. It brings an innovative semantic concurrency control. It enables to compute aggregated KPIs in aggregated KPI tables as data is ingested. In this way, the aggregation analytical queries become costless since they just need to query the relevant row from the appropriate aggregated KPI table.
- Time Series optimization: LeanXcale maximizes the time series ingestion, extraction, and aggregation. LeanXcale provides bidimensional partitioning that enables to optimize cache efficiency and ingest data at the speed of an in-memory database.

Additionally, LeanXcale is an enterprise-grade database. It integrates with the most popular machine learning frameworks, BI tools and stream/CEP engines. LeanXcale has monitoring, security and recovery capabilities. Applications can access through JDBC, OData or direct KiVi API.

## Technical Benefits



A LeanXcale CEM platform's architecture simplifies traditional ones.

Since a single system can handle **any kind of workload at any scale**, LeanXcale can ingest the data from all the sources, and perform queries to detect network and QoS

issues in real-time.

**With the BI and ML integration**, LeanXcale can provide a simple method to create root-cause analysis, proactive anomalies detection, and data visualization smoothly.

LeanXcale can **be integrated with other OSS** with no effort in different ways: JDBC, etc.

## Business Benefits

LeanXcale CEM architecture simplicity has the following **advantages**:

- **Lower Time-To-Market (TTM):** Engineer team has only to dominate and develop in one SQL based database instead of a myriad of specific technologies.
- **Lower Total Cost of Ownership (TCO):** LeanXcale facilitates a quicker development and more straightforward deployment and maintenance, avoiding the ETL usage. It can manage any volume just scaling horizontally with entirely linear behavior and inexpensive annual subscriptions.
- **Lower Mean-Time-To-Repair (MTTR):** By providing real-time analytics capabilities, ETLs are avoided and thus, the delay in processing they introduce, enabling to detect network and QoS issues in real-time before they scale up and cause noticeable problems to customers. KPIs are calculated in real-time, time series managed efficiently. Machine Learning and BI platforms have direct access to real-time data enabling real-time models.

A telco company benefits from a CEM platform with the previous characteristics getting:

- A better NPS: By an effective CEM platform, customer satisfaction will directly improve.
- Lower Churn: Better NPS values commonly increase customer loyalty and reduce customer churn.
- Higher LTV and lower CAC: Reducing churn provides better LTV figures. It is well known that a good NPS means better branding that reduces acquisition costs.

## About LeanXcale

LeanXcale was founded by a group of top researchers in the field of databases. To this group has been enriched with a group of engineers with experience from several industries and a selected cabinet of advisors: Glen Osaka (PayPal advisor at the time of Elon Musk) or the distributed database guru Patrick Valduriez stand out among them.

## Resources

Visit [www.leanxcale.com](http://www.leanxcale.com) for more information, or contact us at [info@leanxcale.com](mailto:info@leanxcale.com).

Free Trial (<https://www.leanxcale.com/trial>)

Documentation and drivers (<https://www.leanxcale.com/company-resources>)

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