



**Yellowbrick is the world's fastest data warehouse for hybrid and multi-cloud environments giving telecommunication companies a sharpened competitive edge with real-time speed, petabyte-scale true elasticity, and industry-leading deployment flexibility.**

## Overview

As telecommunications operators collect more data through fully digitized, end-to-end processes, they must adopt the playbook of the hyperscalers and innovate with data to fully capitalize on 5G opportunity. As a result, the BSS data warehouses that they depend on for financial and marketing analytics are under more stress than ever before. Several key reasons include:

- Subscriber growth leading to more CDR data
- 5G creates more business opportunities, increasing network infrastructure and GPRS sessions, which further expand CDR volumes
- Increased use of data analytics by more departments

When coupled with state-of-the-art analytics technologies, such as machine learning and robotic process automation (RPA), telecommunication operators are limited only by their imagination and the constraints of their analytics environment.

Most telcos run legacy data warehouse platforms, sometimes nearing the end of their lives. Upgrading these legacy on-prem data warehouses by adding new storage capacity to deal with the increased data volumes requires “forklift upgrades.” Adding necessary compute capacity to address the analytics demands from more users and data is expensive. These legacy data warehouses cost too much to expand because they lack the elasticity provided by modern data warehouses and don’t provide a clear path to the cloud. As a result, they fail to deliver on financial needs, resulting in suboptimal payments, poorly targeted marketing, unhappy users, and SLA breaches.

Moving to the cloud in one shot is a massive, costly business risk that exposes the operator to an unpredictable, consumption-based business model which disincentivizes further use of analytics, and risk of being locked into a cloud platform. Some operators have experimented with Hadoop as a cost-effective solution to growth but the inherent complexity and hidden running costs mean this has largely failed to deliver on its promise.

Yellowbrick Data Warehouse is a modern, elastic, massively parallel (MPP) SQL relational database delivering high performance on massive volumes of live data across cloud and on-premises for better informed business decisions with predictable and controlled costs.

The Yellowbrick Data Warehouse solves these problems: An easy migration from existing on-premises data warehouses to a modern, elastic data warehouse that runs on-premises, in the cloud, and at the network edge. The Yellowbrick Data Warehouse is proven, supporting thousands of users processing hundreds of billions of CDRs per day for all BSS use cases at two of the world's top 10 telcos. It immediately alleviated business bottlenecks, resulting in efficiencies gained worth tens of millions of dollars per year, accommodated more users, and offered an incremental path to cloud migration compatible with legacy on-premises ETL and BI tools – all while offering a predictable pricing model.

## Killer Use Cases

### General-purpose BSS warehouse

Across Yellowbrick's telecommunications engagements, customers have replaced legacy technology from vendors like Oracle and IBM, and open source options like Hadoop and Greenplum, with Yellowbrick to better monetize investments in their network, understand customers and predict market opportunities. These are operational data warehouses measured in hundreds of terabytes or petabytes. They support business-critical workloads and ad hoc

queries for thousands of users. Customers leverage high availability and built-in replication for disaster recovery, along with workload management to make sure that business objectives can be met with predictable costs.

The BSS data warehouses are used for typical financial use cases – such as charging, billing, revenue management, cost control and revenue assurance. One customer's profits was directly affected due to the inability to process billing reconciliations for prepaid phone distributors and partners in a timely fashion, breaching SLAs. Another customer was able to refine and reduce customer churn, drive more upsells and reduce fraud through more analytic insights.

### Forensic query

All telcos are forced to keep a large data archive online for regulatory and investigative use by government officials. One such archive was almost 2PB of data and runs only ad-hoc queries. It was migrated from Oracle to Yellowbrick in a period of approximately two months. The customer is no longer capacity-constrained in their Oracle environment, and Yellowbrick's subscription cost less than Oracle's support.





## Data lake

Citizen data scientists now account for a large number of data warehouse users. They had previously been directed to use the SQL-on-Hadoop platform which was highly unstable, with queries taking too long. Users were becoming disincorporated to work more with data.

The customer mirrored 1PB of data lake data in a Yellowbrick Data Warehouse, ingested via Spark in real-time, enabling tens of thousands of ad-hoc queries per day. Queries on average ran 20x faster, even those querying months of data across tens of billions of rows. This allowed almost 100 new business applications to be delivered based on the data stored in Yellowbrick.

## Reducing data center footprint

A telco customer was able to replace several racks of Netezza with a Yellowbrick system that takes only 10U of space in a single rack – a 20-fold reduction in rack space. With this dramatically smaller footprint and reduced power consumption, the operator estimates it will save several million dollars in data center costs per year.

**Intrigued?** Find your biggest, most complex data set and most important business challenge and invite us in for a Yellowbrick test drive. We'll show you how high-speed data analytics can redefine your business opportunities. [www.yellowbrick.com/test-drive](http://www.yellowbrick.com/test-drive)

## Summary

Yellowbrick is the modern data warehouse designed to solve next-generation telco challenges. It's easy to migrate to and runs fast at a low cost, giving superpowers to telcos looking to gain insights about all aspects of their business while protecting against revenue leakage and fraud. Yellowbrick is unique in allowing customers to correlate data from every aspect of an organization's operations seamlessly in a Distributed Data Cloud. No one runs data warehousing workloads faster and more efficiently than Yellowbrick.

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