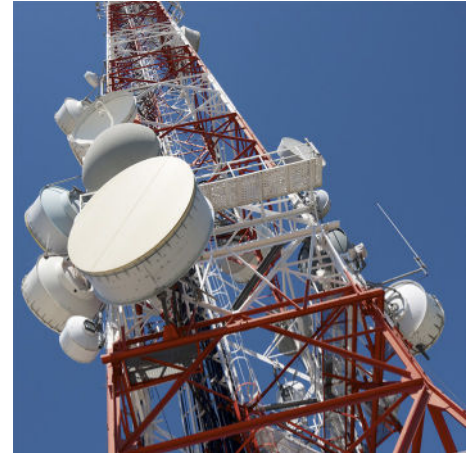# China Telecom Zhejiang Ltd

Harnessing the power of data with OpenText to provide personalized services for millions of customers

Who is China Telecom Zhejiang Ltd?

World leading telecommunications company China Telecom provides a wide range of information services including mobile, broadband, and 5G internet connectivity to businesses and individuals throughout China. China Telecom Zhejiang Ltd is the division of the company responsible for activity in Zhejiang Province.

Growing Cost and Complexity

As competition in China's telecommunication industry heats up, providers are locked in a fierce battle for greater market share and increased customer loyalty.

For telecommunications companies like China Telecom Zhejiang Ltd, the key to future success lies in the large volumes of customer

and operational data that it has collected over the years. While detail-rich data is abundant, managing this information cost effectively and mining it for fresh insights presents a series of complex technical challenges.

"Data is the lifeblood of our organization and powers key business functions including marketing and financial planning," explains Mr. Xiaodong Chen, Deputy Manager of IT and Big Data Center of China Telecom Zhejiang Company. "And with data volumes set to increase exponentially, it's essential that we can manage and analyze the mission-critical data supporting our businesses effectively."

With multiple legacy solutions supporting its analytics activities and data siloed across multiple systems, China Telecom Zhejiang Ltd found that its reporting processes were no longer performing optimally, with some overnight reports running into business hours the following day. In addition, the complexity of the company's existing infrastructure generated significant costs and limited the ability of the IT and Big Data Center to quickly share data among different business units.

Robust, Reliable Infrastructure

To step up its analytics capabilities, China Telecom Zhejiang decided to replace a costly, low-performance set of analytics solutions and

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> Deputy General Manager of IT and Big Data Center
> China Telecom Co., Ltd. Zhejiang Branch

At a Glance

- **Industry**
  Telecommunications

- **Location**
  Zhejiang Province

- **Challenge**
  Analyze large volumes of business-critical and customer data to deliver personalized mobile and internet services at scale

- **Products and Services**
  Vertica Analytics Platform

- **Success Highlights**
  + Supports better decision-making with up to 50X faster reporting
  + Enhances the granularity of customer profiling—helping to deliver tailored services
  + 50% lower total cost of ownership, 30% reduction in storage infrastructure costs
  + Vertica in Eon Mode reduces the cost of scaling up clusters and delivers predictable performance throughout growth

databases—including Teradata solutions—with a single, integrated relational analytics database built on OpenText™ Vertica™.

Mr. Xiaodong Chen comments, "Compared to other solutions, Vertica (now part of OpenText™) offered the easiest and quickest migration path from our legacy analytics systems. We were able to transfer most of our core analytics activities to Vertica (now part of OpenText™) in under eight months."

During the selection process, China Telecom Zhejiang explored the option of using the OpenText™ Hadoop Data Platform. While this approach offered a low initial investment, it couldn't offer the performance improvements that the company wanted to achieve and was anticipated to be more expensive to manage and maintain in the long term.

"We were impressed with Vertica (now part of OpenText™) because it could provide a stable, reliable, and performant analytics infrastructure that is easy and cost-effective to manage," adds Mr. Xiaodong Chen. "What's more, the robust disaster recovery options built-in with Vertica enable us to create an architecture that can be quickly restored without incurring significant data loss in the event of unexpected disruption."

Switching to Vertica in Eon Mode

China Telecom Zhejiang Ltd initially deployed OpenText™ Vertica™ in Enterprise Mode. As data volumes grew and analytics applications became more sophisticated, the company determined that moving to Vertica in Eon Mode—which stores a single copy of all data in the cluster in a shared environment accessed by each node—would simplify, accelerate and reduce the cost of scaling up its infrastructure.

"We wanted to be able to expand the storage and compute elements of our Vertica (now part of OpenText™) infrastructure independently, so that we didn't need to invest in a new high-performance server each time we needed more storage capacity," says Mr. Xiaodong Chen. "After feasibility testing, we successfully migrated to an on-premises implementation of Vertica in Eon Mode, largely using our own internal resources."

The move to Vertica Eon Mode has eliminated potential bottlenecks and competition for cluster resources by enabling China Telecom to separate computing and storage elements. This has resulted in the ability to deploy lower-specification compute nodes, providing cost savings of up to 20% per server. In addition, the company enjoys more predictable performance, as Mr. Xiaodong Chen explains: "It's now easier to meet business expectations. We

have more than a dozen data teams using the cluster, divided into four subclusters, and there is no longer any impact from one group's activities on another group. Dynamic deployment can be achieved, so the operational efficiency is much better than before."

A further advantage of Vertica Eon Mode is its robustness and speed of recovery. Before, rebalancing the data when a node went out of service could take up to 20 hours. Today, returning to the previous level of performance takes an hour at most, and often there is no impact at all if a node goes down.

Optimizing Efficiency

Since consolidating its analytics infrastructure with OpenText™, China Telecom Zhejiang Ltd has achieved significant cost savings while also improving the performance of mission-critical reporting activities.

"We have cut the total cost of ownership of our analytics environment by 50 percent and reduced our storage infrastructure costs by 30 percent thanks to the powerful compression capabilities of Vertica (now part of OpenText™)," explains Mr. Xiaodong Chen. "At the same time, we have accelerated some tasks by a factor of 50, so that some reports run in 5 minutes instead of 2 hours previously."

"By evolving our analytics capabilities with Vertica (now part of OpenText™) we've been able to improve knowledge sharing across our business, which enables us to be more responsive to our customers' needs and stay ahead of our competitors."

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"We've achieved these efficiency savings while also enhancing the performance of our analytics function. With Vertica (now part of OpenText™) we are able to meet all of our internal service level agreements on reporting—giving our teams the timely information they need to make smart strategic decisions."

With Vertica powering its analytics function, China Telecom Zhejiang can double the amount of data points that it uses in its marketing planning and profiling analyses, which helps the company to build a deeper understanding of customer preferences and deliver tailored customer experiences at scale.

Mr. Xiaodong Chen concludes: "By evolving our analytics capabilities with Vertica (now part of OpenText™) we've been able to improve knowledge sharing across our business, which enables us to be more responsive to our customers' needs and stay ahead of our competitors. And running in [Vertica] Eon Mode means we can allocate our resources in a more targeted way, depending on whether we need more storage or more compute power. We have eliminated potential bottlenecks in performance, so we can serve the requirements of the business even as data volumes and demands continue to grow."

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