cirata®

Global connectivity

Making the call to accelerate telecom data modernization
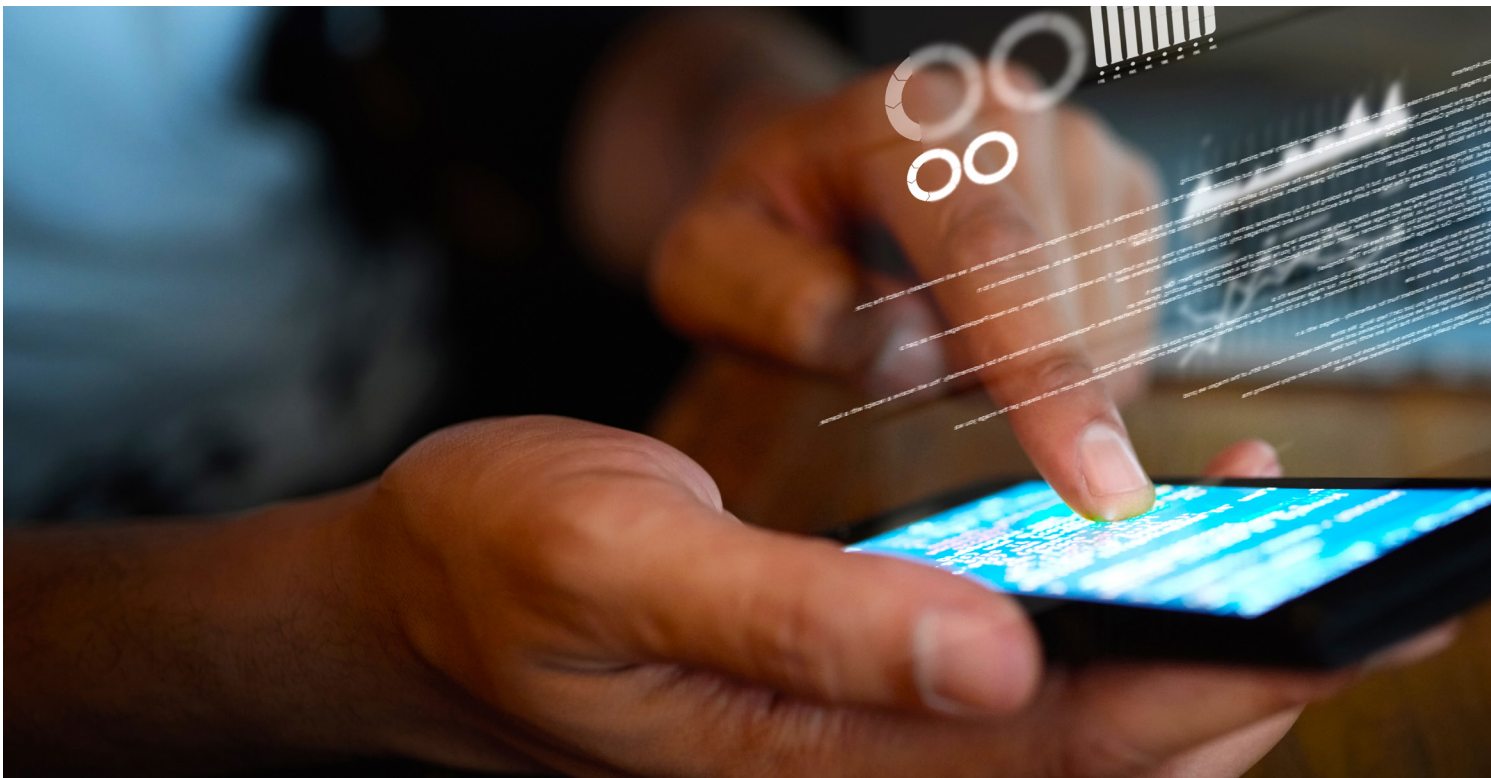
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Introduction

The telecommunications industry stands at the forefront of global connectivity, responsible for managing vast amounts of data while constantly adapting to rapid technological advancements. As the world becomes increasingly reliant on digital communication, consumer demand for "always-on" connectivity continues to grow, pushing telecom providers to deliver seamless, secure, and reliable experiences. The ability to efficiently manage, migrate, and leverage data has become a critical factor for providers looking to remain competitive in this fast-paced market, improve customer satisfaction, and unlock new revenue streams through innovative services.

However, the path forward is not without its challenges. Telecom operators face mounting pressures from aging infrastructure, rising cybersecurity threats, and the need to handle exponential data growth. Additionally, the shift toward 5G, IoT, and cloud-based technologies demands significant investment and modernization efforts. Providers must find ways to reduce operational risks, streamline processes, and adopt scalable technologies to keep up with evolving industry demands.

Streamline network data modernization

Telecommunication providers handle and manage enormous volumes of data daily, driven by the complexity of their network operations and the increasing demands of their customers. This data is pivotal for ensuring smooth operations, enhancing customer experiences, and driving innovation in the sector. However, legacy systems often act as a barrier, limiting the ability to process, analyze, and scale data effectively. This makes data modernization not just a priority but a necessity, as providers look to enhance scalability, improve operational speed, and ensure long-term efficiency in an increasingly competitive market.

Advanced technologies like Cirata Data Migrator are transforming how telecom companies address these challenges. This solution allows providers to seamlessly transfer massive amounts of structured and unstructured data to the cloud, overcoming common obstacles like downtime, operational disruptions, or the threat of data loss. By cutting migration timelines in half compared to internal capabilities, Data Migrator accelerates the transition to modern cloud environments. Once in the cloud, telecom providers gain faster access to advanced AI and analytics tools, unlocking the potential for real-time insights, predictive analytics, and smarter decision-making. This combination of speed and innovation positions telecom companies to stay ahead in a rapidly evolving industry.

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Use case #1: Enhancing signal integrity

One major telecom provider successfully leveraged Cirata Data Migrator to replicate its extensive on-premises network data to a secure and scalable cloud platform. This strategic move allowed the company to modernize its IT infrastructure, eliminating the challenges and high costs associated with maintaining and managing physical servers. By transitioning to the cloud, they significantly reduced operational complexity, ensuring a more efficient and streamlined workflow.

The solution provided real-time synchronization of data, enabling the telecom provider to maintain seamless operations and deliver uninterrupted connectivity to its customers, even during periods of high demand and peak usage. This ensured minimal downtime, enhanced customer satisfaction, and reinforced the provider's reputation for reliability. Additionally, migrating to the cloud positioned the company for future growth, giving them the flexibility to scale their systems and adapt to evolving industry demands with ease. This transformation not only boosted their operational efficiency but also set the stage for more innovation and improved services for their users.

5G will account for nearly two-thirds of all mobile data by 2028. *PWC | Perspectives from the Global Telecom Outlook 2024–2028*
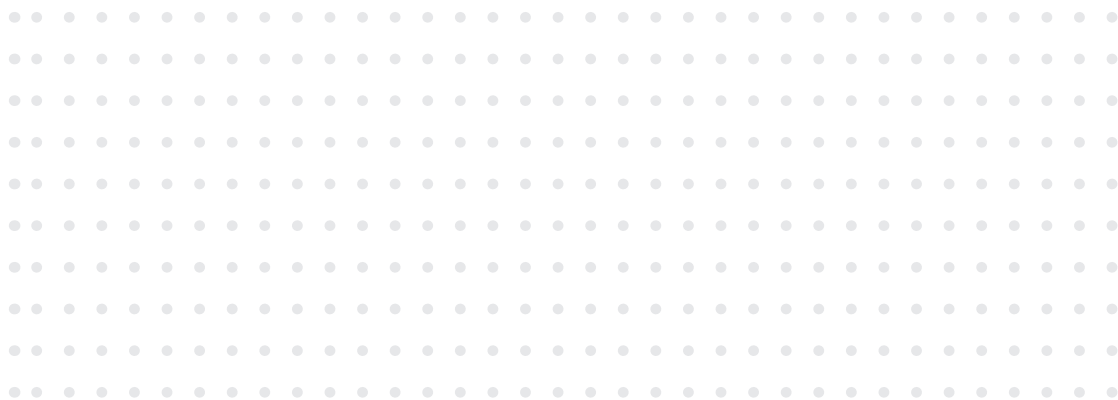
Optimize data for revenue growth

The telecom industry is consistently growing and has vast amounts of users and data, and have long faced pressures to monetize their massive data sets. Today, customer intelligence derived from AI and analytics is a game-changing strategy to drive personalized experiences, predictive services, and additional revenue streams. By leveraging predictive technology and AI, telecom providers can glean insights into consumer behaviors, adjust plans or offers dynamically, and provide highly sought-after value-added services such as real-time fraud prevention.

Cirata's platform has allowed telecom providers the insights to further develop tailored solutions to their clientelle such as usage-based pricing, flexible plans, and advanced call routing, resulting in higher customer retention and increased service adoption.

The US telecom industry serves around 335 million people and is valued at a minimum of $118 billion USD

as estimated by the Federal Communications Commission (FCC)

Enhance disaster preparedness and recovery

No industry can afford to be caught unprepared in the face of disaster, and for telecom providers managing mission-critical systems, the stakes are even higher. Data loss or downtime in this sector doesn't just impact a single company—it can disrupt communication networks, affect millions of users, and lead to significant financial and reputational losses.

Cirata's disaster recovery solutions are designed to safeguard telecom providers from these risks by ensuring ongoing access to replicated network data. Our advanced technology minimizes potential data loss and drastically reduces recovery time after an interruption event, whether caused by hardware failure, natural disasters, or cyberattacks. With Cirata, telecom providers can maintain seamless operations and ensure continuity of service, giving them the confidence to operate even in high-stakes scenarios where failure is not an option.

Leverage predictive analytics for real–time insights

The power of predictive analytics lies in its ability to transform raw telecom data into actionable insights in real time. By leveraging advanced algorithms and machine learning models, telecom companies can gain a deeper understanding of their operations and customers. Predictive analytics helps anticipate network outages, allowing providers to address potential issues before they impact service. Similarly, it identifies customer churn risks by analyzing patterns in usage, complaints, or payment behaviors, enabling companies to take preemptive actions to improve retention.

Modern data platforms play a crucial role in unlocking these capabilities. By consolidating multi–cloud environments, these platforms streamline the process of analyzing cross–network data, making it faster and more efficient. This consolidation allows telecom providers to break down silos and access a holistic view of their operations. As a result, they can accurately predict trends, adapt to shifting consumer behaviors, and optimize resource allocation. Ultimately, predictive analytics not only boosts operational efficiency but also enhances customer satisfaction by providing a seamless and reliable experience.

Did you know?

a leading US telecom was able to see a reduction of 1 billion robocalls monthly

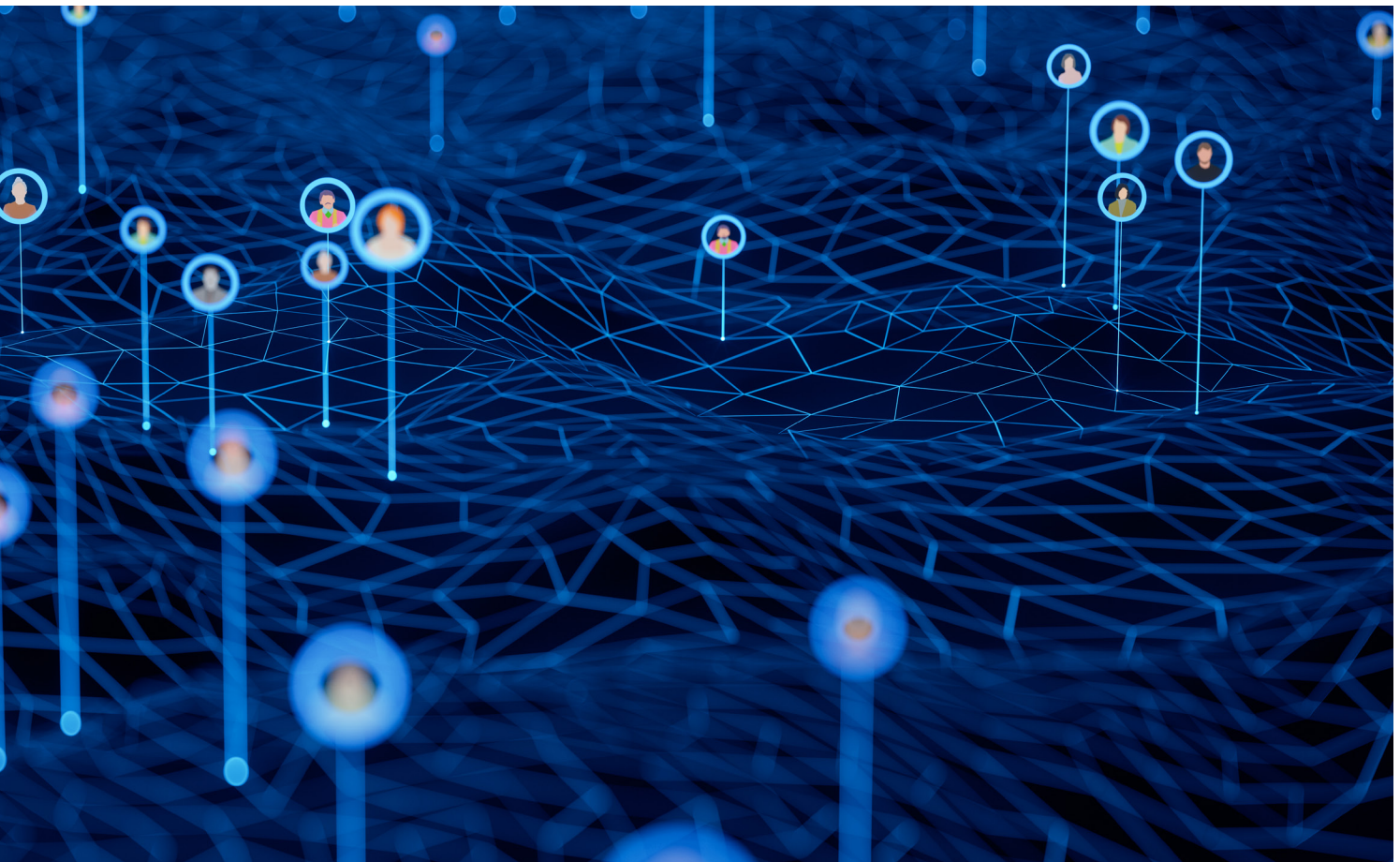*tied to advanced analytics and real–time data replication*

Prioritize data compliance and security

Protecting consumer data is non-negotiable in the telecom sector, which is governed by stringent regulatory requirements such as GDPR in Europe and the CCPA in California. Telecom companies handle vast amounts of sensitive information, including personal details, call records, and location data, making advanced data management systems essential to ensure data privacy and security. Failure to meet these regulations can result in hefty fines, reputational damage, and loss of customer trust.

Cirata simplifies compliance though integration with enterprise security controls, data security in transit with industry-standard encryption, and comprehensive role-based access mechanisms. Additionally, Cirata's solutions integrate seamlessly with existing systems, ensuring that data privacy is maintained throughout every stage of the data lifecycle—from collection and processing to storage and deletion. By leveraging Cirata's powerful tools, telecom providers can confidently meet regulatory demands, minimize risks, and uphold the trust of their customers in an increasingly data-driven world.

Unlock innovation through seamless data migration

Innovation requires more than just staying ahead of competitors; it requires creating systems that are scalable, flexible, and encourage collaboration across global networks. For telecom providers, this means adopting scalable, hybrid environments that unlock new possibilities. By transitioning to these environments, providers gain access to cutting-edge machine learning tools, advanced DevOps configurations, and fully customizable workflow integrations, enabling them to optimize operations and deliver better services to their customers.

Cirata's cloud-agnostic Data Migrator is designed to seamlessly support these hybrid architectures. It allows telecoms to move data efficiently between platforms while reducing costs, avoiding vendor lock-in, and increasing overall system adaptability. With Cirata, telecom providers can future-proof their operations, ensuring they remain competitive in an ever-evolving industry.

Did you know?

a leading US telecom had their migration timeline reduced to 6 months

from an original 12 months with the use of Cirata's solutions

Connect with the future

Cirata's solutions can resolve the unique challenges of the telecommunications data sector, delivering tangible results that enhance operational efficiency, reduce costs, and unlock revenue potential.

Why Cirata

- Proven expertise trusted by hundreds of global brands.
- Zero-downtime or disruption allows telcos to operate with maximum efficiency while delivering exceptional services to their customers.
- Immediate access and availability of data. Telcos can effortlessly transfer and immediately access vast amounts of data at scale, enabling them to leverage the most competitive technologies available.
- Data security compliance. We prioritize safeguarding your invaluable customer data to ensure it adheres to regulatory and other compliance requirements.

Schedule a custom demo with our experts to see how Cirata can streamline your data modernization efforts and position your telecom for sustained growth in a data-driven economy.

Global telecommunication organization

Case study #1:

Enabling a global telecommunications organization to optimize the use of their greatest asset: their data.

Objectives

The company had started their journey to cloud computing by adopting Microsoft Azure. They wanted to move to the cloud for several reasons:

- To reduce costs and gain operational efficiency
- To gain the benefits of cloud elasticity
- To modernize and transform their technology environment

Challenges

Initially, the company's cloud program was very application focused. This is a large company with thousands of applications, and as they started to look at their application journey, one of their big realizations was that it wasn't so much about the applications as it was about the data. This was especially true for the data science office, so the organization started to think about a "data-first" approach and finding a way to get the data to the cloud to start getting benefits early. They wanted to be able to quickly demonstrate the business benefits of accelerating their business and improving customer experiences, revenue, and customer retention, as well as achieving cost savings.

The challenge was the volume of existing data (tens of petabytes) and the fact that new data was continually being ingested. How could the company migrate this volume of data efficiently and without impacting current business operations?

The company looked at a variety of solutions, including data transfer devices, ETL tools, and open source tools such as DistCp based software. Each of these solutions weren't fit for purpose. With data transfer devices, the data needs to be copied onto multiple devices, the devices must be transported by truck to the cloud data center, and the data then must be copied from the devices onto the cloud storage. After realizing multiple trucks would be needed, the security issues associated with shipping the data via trucks became clear. They would either need to bring their production systems down to prevent changes from occurring during the transfer process or undertake custom code development to identify and migrate any new or changed data. They quickly discarded transfer devices as a viable approach. Using ETL or open-source software tools also had similar issues in handling changing data, and the company estimated it would be too costly to develop and maintain the custom solutions they would need to develop with those tools. A better alternative was required.

Solution

The company ended up selecting Cirata Data Migrator to enable the data-first approach they were looking for and to automate the Hadoop-to-Azure data migration process without requiring any business disruption.

Results

- Original data migration timeline objective was cut by over 50%.
- Data-first approach with Data Migrator enabled data to become immediately available to data scientists.
- Faster development of high-value AI models enabled enhanced fraud detection.
- Now able to identify robocalls in seconds, where it previously took days.
- More than 7.2 times more blocked robocalls per year.
- Existing production environment remained in use during entire process (no business disruption).
- Able to take time to optimize existing workloads for new cloud environment and avoid big bang cutover.
- Able to save millions of dollars by decommissioning the on-premises disaster recovery data center.
- Achieved very fast ROI on the project by leveraging a datafirst approach.

du

Case study #2:

du ensures their data lake remains resilient in supporting the Dubai Smart City Initiative.

About du

Emirates Integrated Telecommunications Company P.J.S.C., commercially rebranded as du in February 2007, is one of the two main telecom operators in the United Arab Emirates. du offers fixed line, mobile telephony, internet, and digital television services across the UAE. It also provides carrier services, a data hub, internet exchange facilities and satellite service for broadcasters.

Objectives

As a major service provider to Dubai's smart city initiative, du needed to ensure that their on-premises data lake was always available to the Smart Dubai Platform. This platform facilitates the exchange of open and shared data between the public sector, private sector and individuals, creating new opportunities for engagement, contributing to the smart city future of Dubai, and therefore data availability was key. du had tried using other data replication capabilities such as Apache NiFi but the manual intervention required in coding data migration and the time spent repairing data through erroneous data transfer proved prohibitive.

Solution

du has successfully implemented Cirata Data migration technology to effectively support the disaster recovery needs of their expansive data lake. This advanced technology offers an automated platform for data replication that is inherently resilient to network outages, ensuring uninterrupted operations. By requiring minimal manual intervention, it streamlines processes and reduces the likelihood of human error. Additionally, it guarantees that any live data changes are captured in real time at the disaster recovery site, thereby enhancing data integrity and reliability. Over the past 8 years, du has relied on this robust technology to support its 54 node Hadoop environment, ensuring a remarkable 24/7 availability. This consistent uptime is crucial for handling their extensive data processing needs and maintaining operational efficiency, ultimately leading to improved decision-making and business continuity challenging given the growth in the amount of data being ingested daily into the production data lake.

Results

- du successfully supports Dubai's Smart City initiative by ensuring consistent data availability.

- Implemented resilient and efficient disaster recovery solutions for their on-premise data lake.

- Automated data replication using Cirata technology, negating the need for manual intervention.

- Proved resiliency to network outages to assure consistent operation.

- Enabled live data change capture at the disaster recovery site which in turn assured data integrity.

- Has effectively utilized this technology to support its 54 node Hadoop environment for the last 8 years, ensuring 24/7 availability.

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Cirata is your partner for telecommunication data excellence.

Contact us to learn more about Cirata Data Migrator and how we can help you move, integrate, and monetize your telecommunication consumer data.

About Cirata

Trusted by global brands and industry leaders for more than 15 years, Cirata specializes in the migration of Hadoop data lakes into leading cloud platforms to enable game–changing Artificial Intelligence ("AI") and analytics. With Cirata, data leaders can leverage the power of AI and analytics across their entire enterprise data estate to freely choose analytics technologies, avoid vendor, platform, or cloud lock–in while making AI and analytics faster, cheaper, and more flexible. Cirata's portfolio of products and technology solutions make strategic adoption of modern data analytics efficient, automated, and risk–free. In addition, leveraging our patented technologies, including the Distributed Coordination Engine ("DConE®"), our DevOps solutions integrate effortlessly with your existing source code management to increase security, minimize risk, reduce latency, and improve collaboration across globally distributed development teams.

For more information on Cirata, visit www.cirata.com.

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