

# LGR Telecommunications Improves the Power and Versatility of Its Solutions with a Data Warehouse

## COMPANY PROFILE

### LGR Telecommunications Atlanta, GA

LGR is a specialist ICT solutions provider to the global telecommunications industry. Its core business is the supply and development of CDRLive, a premier data warehousing, analysis, and reporting solution.



HEADQUARTERS: **Atlanta, GA**

FOUNDED: **1998**

INDUSTRY: **Communications**

EMPLOYEES: **100+**

## COMPANY HIGHLIGHT

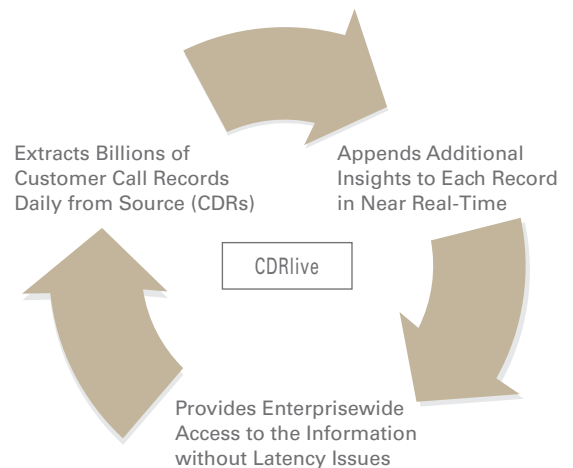
- Facilitated a 40% compound annual growth rate of subscribers over the past 10 years without presenting technical challenges
- Delivered more than 550% ROI with extraordinary insights into revenue and call usage for additional revenue capture and other revenue assurance benefits
- Provided more than 300% ROI in less than 12 months by eliminating churn and accelerating customer acquisition in corporate accounts
- Processed a peak of 13 billion records per day in 2008, with an increase to 15 billion records per day (or 150,000 per second) forecast for 2009
- Scanned over 75 billion records (approximately 2 weeks of customer data) to return 500 to 1,000 results in less than 30 seconds

## Executive Summary

LGR Telecommunications (LGR) is a specialized solutions provider to the global telecommunications industry, offering a unique business solution that taps directly into the source of each customer interaction with the network by accessing the call data record (CDR) it creates. LGR's approach intelligently captures CDR data in real-time, appends additional business information to the record, stores the data within a comprehensive Oracle data warehouse solution, and provides real-time analysis to the telecom service provider.

Through LGR's core offering, CDRLive, telecommunication service providers can use information carried in each phone call to gain marketing, finance, legal, customer service, and sales insights that were never before possible. The company today serves many of the largest and most successful global telecommunications providers, including AT&T, Telstra, Vodafone, MTN and TrueMove.

With its inception in 1998, LGR had identified the opportunity to deliver new insights to telecommunications service providers. LGR's industry-veteran founders realized that phone calls generated treasure troves of untapped customer data in CDRs. However, uncovering this data required heavy-duty IT systems and storage for the hundreds of millions or even billions of CDRs generated each day. The enormous amount of data, requiring near-real-time processing, was beyond database capabilities at that time. In addition telecommunications providers faced the challenge of cost-effectively storing and analyzing the massive amount of data available to them.



## “Oracle has been bulletproof, and it’s the key to keeping our solution simple, which ensures stability and reliability for our customers”

GRANT SALMON, LGR’S CHIEF EXECUTIVE OFFICER

### Oracle Products and Services

- Oracle Database
- Oracle Real Application Clusters
- Oracle Partitioning
- Oracle Exadata
- HP Oracle Database Machine

Using its ingenuity and commitment, LGR built CDRLive, the first commercially available product specifically engineered to deliver new insights to telecommunications providers. Ten years after it was first launched, CDRLive still stands alone in performance and scalability capabilities that have been uniquely designed to serve the telecommunications industry. The technologies that power CDRLive are in its Oracle data warehouse, built on Oracle Database 10g/11g with Real Application Clusters and Oracle Partitioning.

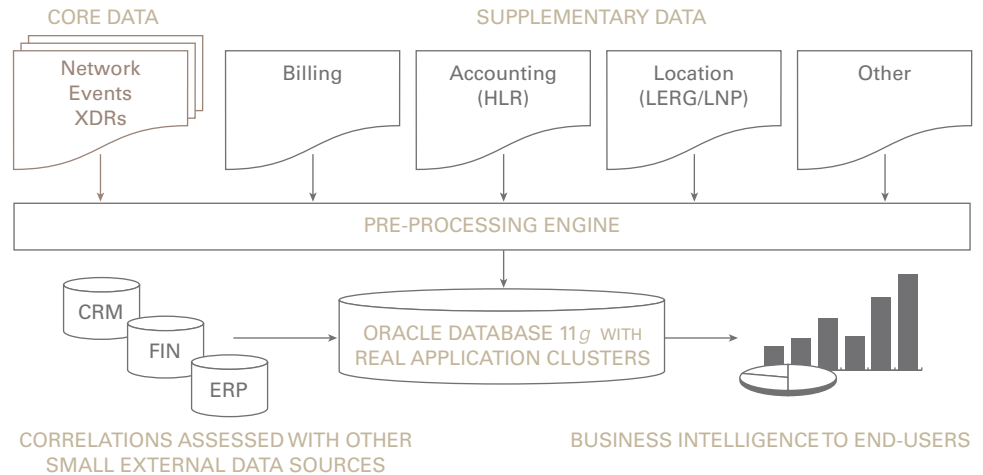
Using Oracle as its technical platform, LGR has effectively managed the tremendous increase in global subscribers managed by CDRLive at a compound annual growth rate (CAGR) of 40% over the past 10 years. The company has also been able to scale to support the ever increasing transactional volume of its customers. Through LGR’s most recent efforts, CDRLive will support peak processing of 15 billion records each day by 2009. According to LGR’s Chief Executive Officer Grant Salmon, “Oracle has been bulletproof, and it’s the key to keeping our solution simple, which ensures stability and reliability for our customers.”

The power of CDRLive is that it cuts across many telecommunications provider business functions, facilitating key business objectives such as an optimized network infrastructure, better managed marketing programs, improved revenue flow, and proper interconnect fee verifications. Opportunities for CDRLive continue to grow as telecommunication providers expand their footprints into new personalized information services for business customers and consumers. As their services proliferate, providers can use CDRLive to better target customers and personalize how they communicate with and serve them. It therefore proves to be a critical differentiator to the industry in terms of boosting customer acquisition and loyalty.

### CDRLive: Unique Census-Driven Business Insights

CDRLive was the first solution to provide telecommunications companies with a reporting and analysis tool that collects business critical information directly from source CDRs, creating a census-based approach to analysis. This, compared to the traditional method of using summarized or sample data, produces superior results because underlying data is directly acquired from the source so it does not need to be manipulated in any way. In addition, because the dataset includes all source records, no sampling biases are introduced.

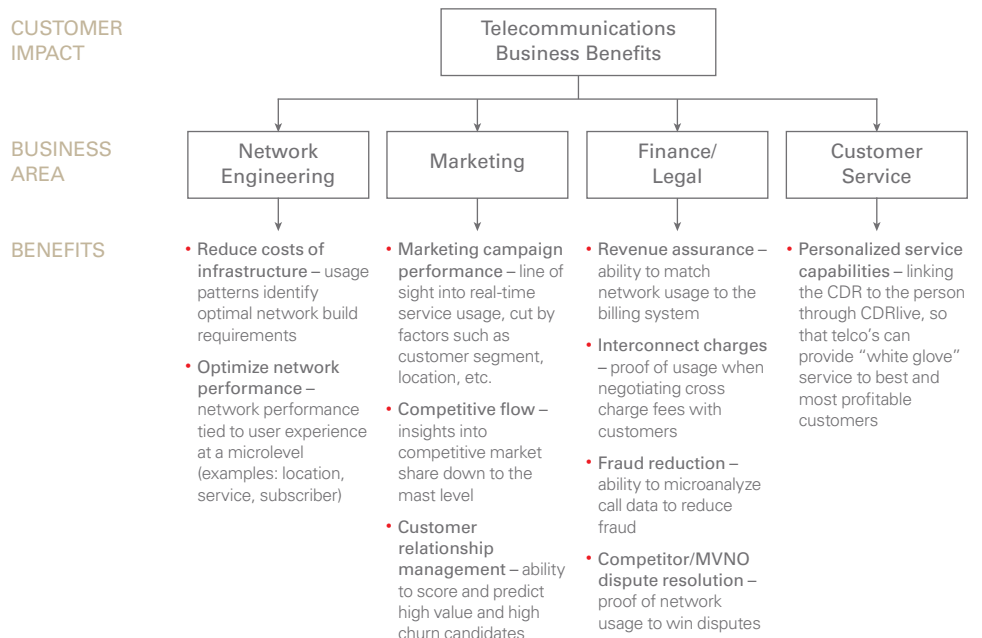
In addition to capturing basic CDR data, CDRLive also extracts the data within a CDR that is otherwise unused by traditional OSS/BSS systems (typically around 80% of the total record), and then further appends additional insights onto each record, making it infinitely more valuable to a telecommunications provider. As illustrated, additional transactional data, such as accounting through home location records (HLRs), or location through local exchange routing guides (LERGs) and local number portability (LNP) information



are appended in addition to related data from core internal CRM or ERP applications, to provide a comprehensive view of each customer’s cell phone usage.

As CDRLive has matured, its capabilities have expanded dramatically. Originally, the product was used to assess network infrastructure capacity, identify potential constraints, and help network engineers prioritize investments. Today, CDRLive is used across many of telecom providers’ major business functions, including sales, marketing, finance, legal, and customer service.

As illustrated below, using CDRLive helps increase revenue by supporting new service development and measuring the effectiveness of marketing programs. The solution also



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LUCKY FATSILIDIS, LGR'S CHIEF OPERATING OFFICER

contributes to bottom-line savings by optimizing future network investments and revenue assurance and by reducing exposure to legal disputes.

CDRlive is based on an open architecture, leveraging standard technologies from Oracle and HP. This lowers costs by minimizing integration and customer support requirements, while allowing the product to stay current with the latest technologies from these industry leaders.

### CDRlive's History: Choosing Oracle

In 1998, LGR Telecommunications built its first version of CDRlive using proprietary database technologies created by the one of the founders, the company's current chief operating officer Lucky Fatsilidis. At that time, commercial database providers had not demonstrated the ability to scale and process at the speed LGR required. “We knew what our customers needed,” Fatsilidis said. “It was imperative to have near-real-time responses on billions of records each day. This was something that even Oracle believed was unattainable at the time.”

Although the first release of CDRlive was highly successful, LGR quickly realized the limitations of building its solution on a proprietary database foundation. One of biggest drawbacks was the cost and complexity of training customers' DBAs and SQL technicians on LGR's database technology, while another major concern was the difficulty in integrating LGR's proprietary tool with other IT applications for billing, CRM and customer care.

Listening to its customers, LGR decided to take a second look at commercial, off-the-shelf (COTS) database solutions and to explore replacing CDRlive's underlying foundation. In 2000, LGR conducted due diligence on the leading COTS database solutions, searching for the best platform to support its customers needs. The database solution required

- Seamless scalability
- Real-time performance
- 100% uptime
- Plug-and-play integration
- Open architecture

By late 2000, the team determined that Oracle, with its partitioning technology, provided the advanced performance that met even those requirements of CDRlive's largest customers. According to Hannes van Rooyen, LGR's chief architect, “This

#### CDRlive PERFORMANCE

Record Retrieval from Database	<5 Seconds
Database Scan Efficiencies	75 Billion Records Scanned Producing 500–1000 Results
Peak Records Per Day	13 Billion Increasing to 15 Billion in 2009
Average Records Per Day	3 Billion Increasing to 4 Billion in 2009
Block Changes Per Hour	2.5–3.0 Billion
Database Reads Per Hour	5 Billion
Database Writes Per Hour	1 Billion

**“Our confidence in Oracle’s database technologies stretched beyond even Oracle’s own expectations. With a full commitment to Oracle, we began to accelerate our product capabilities even faster than before.”**

HANNES VAN ROOYEN, LGR’S CHIEF ARCHITECT

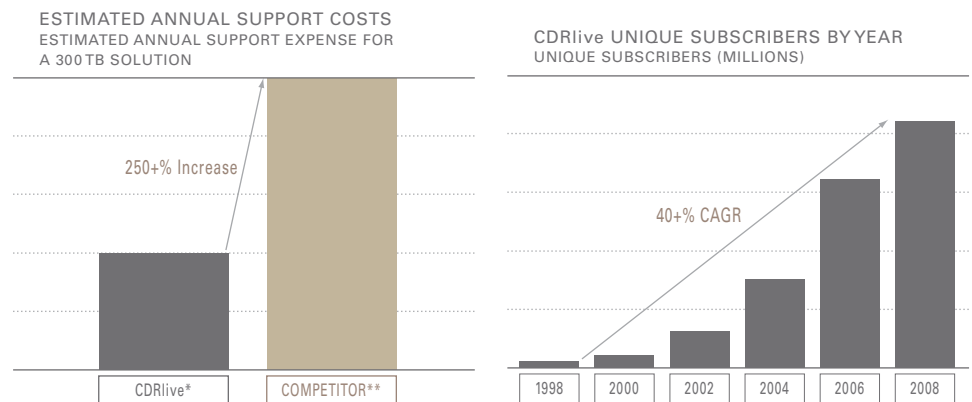
was LGR’s watershed event. Our confidence in Oracle’s database technologies stretched beyond even Oracle’s own expectations. With a full commitment to Oracle, we began to accelerate our product capabilities even faster than before.”

Oracle’s database technologies lived up to LGR’s highest expectations. CDRLive’s technical performance in 2008 included peak processing of more than 13 billion records per day, with more than 75 billion records scanned to produce 500 to 1,000 results for the largest data warehouse queries, and over 5 billion database reads per hour, plus 1 billion database writes per hour. Indeed, one large customer was able to dramatically increase the transactional capacity of its system, processing over 250% of the number of transactions the system was originally designed to handle. In addition, the processing power of Oracle and its ability to store massive amounts of data has also met expectations, with CDRLive managing an Oracle data warehouse that is over 300 terabytes in size for a single customer.

LGR’s results have proven to the telecommunications industry that its vision of using CDR data to provide business insights is a reality, even for the largest and most complex service providers.

### Ten Years of Unbridled Growth

CDRLive’s subscriber base has grown at a 40% CAGR, from a few million subscribers in 1998 to over 200 million subscribers in 2008. A key to LGR’s success has been its ability to deliver outstanding value to its customers through the use of industry standard, COTS technologies from Oracle and HP. A COTS-based solution has been shown to reduce an LGR customer’s data management cost by more than 250% when compared to proprietary-based solutions. These benefits translate into a lower cost to serve and simplify implementation within the customers’ IT environment.



\* Estimate includes Oracle database related costs, average LGR support and maintenance contract.  
\*\* Estimated competitor proprietary DBAs plus average support and maintenance contract.

**“Ultimately the end game for our customers is to sell their products and services to a market of one.”**

PAUL HARTLEY, LGR'S GENERAL MANAGER FOR NORTH AMERICA

In addition to its cost savings, CDRLive has generated significant business benefits for its customers. For example, one of the largest global service providers realized an ROI that exceeded 550% within a year, and experienced over US\$100 million in interconnect and revenue assurance savings that directly improved its bottom line.

Today, this single provider uses CDRLive to manage information related to more than 250 million individual subscribers across the North American continent. This figure includes data captured from incoming calls from noncustomers, as CDRLive allows the company to manage many more records than those generated by its own subscriber base. By obtaining the profiles of callers that are noncustomers, the provider has opportunities to flag potential high-churn customers and identify possible new customer acquisition targets. It also makes marketing programs more effective by matching customers to the services they value most. In addition, network intelligence provided by CDRLive has proven to be essential for prioritizing network capital investments. By matching usage patterns and trends to critical network constraints, this global service provider continues to deliver the best-in-class service results in the industry.

Another LGR customer, a leading provider of telecommunication services in the Asia-Pacific region, also experienced tremendous benefits from its deployment of CDRLive. Using CDRLive's insights to support corporate sales, it achieved more than a 300% ROI in its first year of using the solution. The simplicity of the implementation was key, as the operator was able to implement it in less than three months and completely automate the creation and management of customer profiles. In doing so, it reduced churn to nearly zero across all of its corporate accounts while simultaneously acquiring over 150 new high-value corporate customers, simply by providing customized sales packages packed with more value than competing products.

## Looking Ahead

The telecommunications industry is going through a time of unprecedented technological innovation. With the advent of 3G and 4G cellular networks, telecommunication service providers can supply a universe of new information-based data services that include: news, sports, navigation, and advertising.

To market these services effectively, providers need greater visibility into their customers' profiles. CDRLive provides unprecedented access to individual user activities and experiences, allowing service providers to make more informed marketing decisions. “Ultimately the end game for our customers is to sell their products and services to a market of one,” said Paul Hartley, LGR's general manager for North America.

CDRLive's value will continue to grow as new and innovative services expand at an unprecedented clip. With Oracle's database technology as the underlying foundation

to support its future requirements, LGR is well positioned to continue leadership in delivering innovative data warehouse solutions to telecom service providers across the globe.

## About the Case Study

This study is one of a series of investigations into the costs and business returns of IT investments, with a focus on Oracle technology and applications. It is intended to serve business executives and managers who are evaluating technology investment options.

Research and analysis for this study was conducted by Mainstay Partners, an independent consulting firm and was based on interviews with officials at LGR, review of LGR's planning documents and searches of industry literature. ROI calculations use industry standard assumptions regarding the time value of money.

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