TRANSFORMING TELECOMMUNICATIONS INTELLIGENCE

Progressive carriers have already drawn the link between utilising the full value of their data and achieving commercial value, but the key question is: What to do about it?

WORDS: **Paul Hartley**

➔ BEYOND BILLING

In essence, a CDR is the unique 'digital fingerprint' of every event on a carrier's network. Every time you pick up the phone and dial a number, your telecommunications provider keeps a detailed CDR of that call, gathering the pertinent information that will be used to bill you – your personal details, the number you dialled, the duration of the call, etc. However, the CDR also gathers a wealth of other detail, such as the time of the call, where the call was made from and to, the network routing of the call, and even the make and model of the handsets used.

Most CDRs are typically stripped of as much as 80% of this detail to make them suitable for loading into billing systems, yet within that 80% lies vital intelligence that can be used for competitive advantage. A relational drill-down into usage patterns by company and user would be very useful for sales. Network engineers would benefit immensely from a layered view of base station usage, network routing and traffic demand. And management would be able to make more informed and immediate decisions if they were given access to real time reports of KPIs.

Moving CDRs 'beyond billing' and distilling the hidden wealth of customer, network and competitive intelligence that resides within this morass of data is therefore a critical focus for any modern telecommunications carrier today.

Carriers are finding that their most valuable asset is not their products or services, but their data.

CHANGING MARKET PRESSURES

Global telecommunications carriers have traditionally been valued according to how many subscribers they add each month, and over the last decade, most have experienced white-hot levels of growth in this regard. But a new competitive paradigm has emerged. As markets become more and more saturated and growth rates slow, gaining and retaining subscribers is becoming increasingly difficult. As Charles Golvin, telecommunications industry analyst at Forrester Research puts it, "Today's telecommunications market is no longer about finding new opportunities – it's about stealing somebody else's customers."

Indeed, as growth cools and competition heats up, the standard benchmarks of success have fundamentally shifted, and having tens of millions of subscribers is no longer enough to impress shareholders. Seeking a return on the huge network investments made over the last decade, the focus of shareholders and the boards that answer to them has shifted to the value contained within the subscriber base, and ultimately, the impact this has on the size and growth of profit margins.

MEETING NEW CHALLENGES

As a result, most carriers find themselves under pressure to reduce or eliminate the threats to these margins. Revenue leakage, estimated to be at close to 14% (more than $100 billion) across all carriers globally, has become a key area of importance. So too is fraud, a further $15 billion industry problem. On the network side, engineers are tasked with cleaning up inaccurate or missed inter-carrier billing, and gaining control over inefficient network usage and least cost routing plans. And as the focus turns to maximising subscriber value, the pressure is on to increase ARPU through new services,

combined with a reduction in churn, a problem that is exacerbated by mobile number portability.

In their battle to meet these challenges and stay ahead of competitors, carriers are finding that their most valuable asset is not their products or services, but their data. And telecommunications companies have a lot of data... Their core business is selling time, and they do this by making sure that every call made on their network is tracked in great detail through Call Data Records (CDRs).

Collecting and analysing CDRs presents numerous opportunities for delivering vital intelligence to business users, but also numerous challenges. Over the course of any given day, even a medium-sized carrier such as those operating in the South African market will generate hundreds of millions of CDRs – internationally, these figures run into many billions per day. Raising the focus from an operational level (e.g. billing) to delivering actionable intelligence based on such massive volumes creates a completely new set of challenges in data management across the enterprise

DEALING WITH DATA MANAGEMENT

Effective data management within carriers requires that all CDRs within a network are collected – irrespective of network source (Ericsson, Siemens, Nokia, Nortel, etc.) or technology type (GSM, UMTS, IP etc.) – and then processed into a standard format and stored within a single database. Achieving effective data management is the absolutely crucial foundation for all that follows. For too long, Business Intelligence projects in global carriers have failed hopelessly because they have adopted a top-down approach – lots of fantastically intricate front-ends, but poor data quality at the back-end. The result, in most cases, has been little or no return on investment, because the platforms were analysing incomplete, incorrect or irrelevant information. The key to success is adopting a bottom-up approach to data management

from the outset – creating the de facto usage data store within the network that rapidly delivers credible information for front-end analysis.

Easier said than done. Because CDR volumes number in the hundreds of millions or even billions of records per day, data management on a telecommunications scale can be an onerous task if you don't have the right tools. In many cases, delivery of information to end users carries a lead time measured in months rather than minutes, because the traditional ETL and Data Warehouse technologies being employed are simply no match for the data volumes of telecommunications carriers. And the problem is getting worse by the day – as CDR volumes grow unabated and increase in complexity (witness the records for UMTS networks, Mobile TV, etc.), more and more strain is being placed on the patchwork of general-purpose relational databases, servers and storage systems that carriers currently utilise.

PROVIDING THE RIGHT SOLUTION

The time is ripe for specialist, carrier-grade systems that can deliver comprehensive data management with a proven return on investment, and also provide a rock-solid platform for the information access needs of business users. The only thing that is needed is a spark – something that shifts IT departments away from their focus on 'quick-win' projects, and causes them to approach data management more holistically in order to meet the information access needs for their business users.

Ironically, it is regulatory and compliance issues such as RICA in South Africa and the EU Data Retention initiatives across Europe that are finally putting an end to the historical inertia in this area. Given that carriers are forced to make investments in CDR storage and analysis systems in order to comply with regulation, progressive carriers are realising that this is in fact an ideal time to finally tackle the full scope of data management head-on.

◉ INITIATING GREATER INFORMATION ACCESS

Assuming that data management efforts are able to deliver a 'single version of the truth' for all usage data, business users are then able to use various analysis and reporting tools to enhance specific business functions (e.g. network, sales and marketing, finance, executive reporting, customer service etc) and increase competitive advantage. Reporting examples could include:

- Revenue assurance
- Identification and retention of high-value customers
- Competitive market share analysis
- Improving the understanding of usage patterns
- Uptake of new technologies
- Device quality and performance analysis
- Optimisation of network infrastructure
- Fraud analysis and prevention
- Sales and Marketing campaign management
- Customer service operations
- Interconnect and carrier negotiations
- Least Cost Routing
- Mobile Number Portability.

Rather than making a sunk investment into a system that delivers zero business value, these carriers are choosing to extend the focus, dealing with compliance as merely one of the elements contained within a broader system that is geared towards providing universal data management and delivering enhanced information access to business users. In doing so, they are not only assuring revenue and optimising margins from existing operations, but also positioning themselves for realising rapid commercial value from the launch of new services in future. ◉

Paul Hartley
is chief marketing officer at LGR Telecommunications.