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In a recent Wall Street Journal opinion article, Big Data and the wireless Communications revolution are cited as two of the three breakthroughs poised to transform businesses this century. The combination underscores the battle that's playing out between Web and Communications companies for the consumer. Most service providers are inundated with an explosion of data traffic in their network, undermining profit as traffic grows. What's more, most of this data and usage traffic are not correlated in a way that can be utilized to provide improved services, customer experience or lower network costs. To solve this problem, service providers are embracing real-time analytics. Telecom analytics will continue to play a major driver in understanding the increasingly mobile customer base. Understanding customer behavior helps a company provide services that are more personalized, thus increasing customer loyalty. As the market evolves and new products are launched, analysis becomes critical to understand the tariffs, product and service migrations, customer profitability and loyalty.

The proliferation of online data intensive applications are driving hundreds-of-billions in advertising and digital content revenue; over 7.5 billion smart devices accessing the Internet by 2015; and smartphone data network traffic increasing to 56% of total traffic in 2015, driving hundreds of petabytes in traffic per month. The telecommunications industry is at the forefront of the 'big data' wave. Online interactive marketing spend is growing a whopping 17% CAGR through 2014 to 21% of the total advertising budget. There are tremendous opportunities for Operators to convert their capital intensive businesses in to new and exciting sources of revenue, offsetting the rapid deterioration in network profits with the staggering increase in data and traffic. Telecom operators worldwide have spent billions of dollars on business intelligence (BI) software, services and systems integration over the past few years, but have a long way to go. Communications is the third-fastest growing industry sector in BI and analytics with Gartner predicting a 9% annual growth rate over the next five years.

Analytics guru Dan Baker of the Technology Research Institute puts the coming changes in communications in context with the last two decades: "we're now in the decade of analytics, typified by software used to analyze, audit, and assure operations in greater detail". The

progression we've seen over the previous two decades has been extraordinary, but it's only a fraction of what's coming. Let's take a look: Voice CDRs were relatively easy to track and store. Then when SMS came on board, we went from say 20 CDRs per user, per day, to 100 mixed xDRs per day. Now as you add mobile data to the mix, we're talking about another 10-100x increase, in terms of the number of events that are going through each device. And with video content, we're talking about millions of network IP protocol events that make up a single customer facing event from a mobile TV sporting event. A smartphone, by its very nature, is on all the time. And depending on a carrier's business model, you need to analyze a majority of that subscriber's activity just to put it all into perspective.

Telecom data is complex. Companies work hard to make sense of data from multiple sources, including billing systems, customer service applications, network activity and thousands of product and activity codes. Without consistent data and analytics, companies find it nearly impossible to produce an accurate picture of the business. John Myers, founding principal and senior strategist for Blue Buffalo Group, a Colorado telecom-focused business intelligence (BI) consultancy, put it in context: "while we in the telecom industry certainly have made a lot of progress in terms of business analytics relating to Revenue Assurance and Fraud Management systems in the past few years, we still have a long ways to go in terms of adding true business intelligence analytics to those practices".

The rapid pace of services growth sprouting from the Internet has forced operators to rethink their business models and role of online analytics. Operators need to prepare for the huge event record volumes that are here now, and will only continue to grow with mobile broadband. Extending current data management and legacy warehousing environments is not a feasible solution when considering massive and ever-increasing volumes of data that must be analyzed. As envisioned in this Mobile Europe interview with the President of Tektronix Communications, Lyn Cantor, http://vimeo.com/38155811 the future of the telecommunications industry is on the precipice of a new vision for communication players with a strategy based on an 'application aware analytics platform'. Operators can offer online businesses and marketing professionals a predictable and cost-effective way to reach and engage their online consumers in a "personalized" way, no matter the medium. To support this, the data infrastructure needs to include a specialized database that can support the data volumes, concurrency, load rates and query complexities involved.

Increasingly, companies in the telecommunications industry such as Guavus, 1&1 Internet, Bandwidth.com and JiWire, are turning to Calpont's InfiniDB analytics database to handle the growth in data volume in a high performance manner. InfiniDB is a purpose-built, highly reliable database with Columnar and MPP technologies that are essential for massive, big data on this scale. It's infinitely scalable, highly flexible architecture can deliver exceptional query performance at any data scale in an economically sensible way. InfiniDB allows

Communications providers to load and analyze complex BI queries against billions of CDRs in real-time at a fraction of the cost of legacy systems.