



Mobile Telecom Harnesses Big Data with Combined Actuate and Hadoop Solution

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— **Consumer Products Head of European Telecommunications Group**

The consumer data services business unit of one of the largest mobile network operators in Europe – one of the top five mobile phone service providers in the world – is responsible for developing and managing advanced data services provided to its domestic customers and other key countries in Europe. These services include the packages that provide mobile Internet access on a range of devices, and applications including mobile email, instant messaging, Google search, news and sports updates, and weather and traffic reports.

Challenge

The more critical mobile data services have become to the business, the greater the need has become to monitor their contribution. This means being able to track numbers of 'unique active users' of its various services, information that had not been easy to come by previously.

"We had a very ad hoc way of determining business performance," explains the

company's head of consumer products. "Everything was decentralized – we'd have lots of requests coming to the operations teams but we couldn't go to a single system to get this information in a reliable and consistent way."

Existing tools included operational-type reporting, looking at log files and extracting information from them. "We had a mix of systems and information which needed lots of cross-checking – if indeed this was possible. Getting access to data took a long time and, even then, the business users in marketing had no real confidence in the information they were getting." This in turn compromised their ability to develop and manage these services.

The reporting team delivered only one standard, consolidated Key Performance Indicator (KPI) report per month, the compilation of which relied on the involvement of the IT department, from operations personnel to some of the development team who understood how the tools worked.

> COMPANY PROFILE

Mobile telecom group, among the top five worldwide

> CHALLENGES

- Track performance and active users of mobile data services
- Centralize information to make large amounts of data easy to access and utilize
- Single KPI report required major assistance from IT

> SOLUTION

ActuateOne and Hadoop for Big Data access and analytics

> BUSINESS BENEFITS

- Scalable on-demand analytics platform leverages Big Data
- Replaced several older systems, consolidating business analytics into a single location
- Dynamic portal-based application delivers customer insights into marketers' hands

Business Case

The company wanted to leverage the data it captured on mobile usage to achieve a number of specific benefits. Accurate data about real customer activity would help drive changes to its portal, giving users easy access to the applications they use most often. Analysis of service usage would also enable the company to spot upcoming trends and intelligently market them to customers, and keep its customer touch points current. Finally, being better informed about customer usage would enable the enterprise to ensure it supported all of the latest mobile phone technologies seen on its network and be alerted to potential incompatibilities.

With greater and more granular visibility, the company would be able to keep its mobile applications and web portals fresh and in line with current customer interests, increase its revenues through increased mobile application sales, and reduce customer churn.

Solution

The consumer data services team sought a fit-for-purpose solution that would consolidate all information requirements in a single environment, and enable reliable, ad hoc analysis and end user self-service. This would accelerate the delivery of critical business performance information to the point of need, in a timely enough fashion for that intelligence to be useful and actionable.

"The solution needed to be able to handle large volumes of data, be easily configurable by users, and provide graphical representations of the results, including the ability to drill down into the detail by way of dashboards," the department head explains.

A key facet of the strategy has been to harness Hadoop, a cloud-based, open source platform capable of mining Big Data on a vast scale by harnessing huge arrays of inexpensive computer processing power.

To date this is handling some 36 terabytes of data for the business. Based on the needs of marketing, various feeds from products and services go into Hadoop where they are processed, seeking to determine, for example, the number of unique active users on a particular product, on a daily basis.

Yet this did not tackle their business analytics requirement. Without a direct reporting capability, the company faced a situation where it would have had to pull 80 percent of the data from Hadoop into an intermediate database, at a cost of US\$150,000 in the first year – a figure that would grow incrementally as its data mining ambitions expanded.

Having already deployed the ActuateOne application platform for one specific job, the consumer data services team used Actuate open source based BIRT (Business Intelligence and Reporting Tools) technology to test the potential for connecting analytics capabilities directly to Hadoop. Several other tools were also considered, to see which was best suited to the task. Following a successful proof of concept, the ActuateOne solution was chosen and is now delivering results to business users in eight countries using ActuateOne and its native Hadoop connection.

Business Benefits

The combined Hadoop and ActuateOne solution enables the business to report on usage, and provide other KPI information. Hadoop allows huge amounts of data to be stored in a granular fashion that is cost effective and performant. Actuate's ability to report directly against the Hadoop Big Data source, meanwhile, allows business users to generate on-demand analytics and reports consisting of thousands of pages in a matter of seconds through an easy-to-use web portal, with negligible training.

At an IT level, the company has avoided the need to spend approximately US\$150,000 a year on an intermediate database technology. It hasn't had to build any additional software

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– Business Intelligence Analyst

or processes, as the ActuateOne solution just plugs in out of the box.

The consumer data services division is now also in a position where it can replace several of its older systems, because of the ability to do all of its business analytics in one place. The consumer products head says, "That is a good benefit; for example we have been able to get rid of the licences and hardware for our financial reporting. We're also in the process of replacing another system. Most importantly we now have a one-stop shop – we can get all the figures we need from a single source, so there is no more running around like headless chickens."

"Also, we know that the data is clean now," he adds. "We're not putting a finger in the air, or adding a 'but' when we present the results to the business; we can stand behind the data with absolute confidence."

A Business Intelligence Analyst at the company, whose job is to deliver KPI data to business managers and the marketing teams, welcomes the change. "Previously business users would have to wait until the end of the month to get a single, consolidated KPI report, and even then they couldn't fully trust the findings," she notes. "Now people are no longer chasing their tail for three weeks. If there is an outage, as there was last year when a major smart phone vendor's global platform failed, we can see the impact straight away. If there are suddenly no users, we can quickly pinpoint why.

"The information is just there and ready too," she adds. "It's all automatic. Before, users would be sending emails and calls to chase the data. That's all gone now. Anyone across the whole business can have access to the information they need, and find it on their own. I particularly like the ability to drill down into the figures. You can now see at a glance what's happening right across our activities."

The Future

The consumer products head admits the company is only just beginning to realize the broader benefits of the combined Hadoop-Actuate environment. "So far we're only really using up to 50 percent of the available features," he says. "Now that users are aware of what's possible, we can keep selling this back to the business. Actuate gives us a lot of new options for presenting information. I can also see this expanding to other business units, each of which has its own reporting activities."

"But this has done exactly what we wanted," he continues. "We already have over 250 different reports in Actuate so we see this as a significant investment. The ability to report directly from Hadoop is the most important thing we have achieved to date and our activities are continually evolving. Actuate has made what appeared to be a large-scale and difficult problem an easy one to solve."

Actuate: The BIRT Company

Actuate – The BIRT Company™ – founded the BIRT open source project, which serves as the foundation of ActuateOne®. ActuateOne applications deliver the most insights to the most people – ensuring organizations are ready for Big Data and touch devices.

ActuateOne empowers developers to deploy business analytics and customer communications applications with one BIRT design to access any data, provide one user experience for any user, supported by one platform for any cloud, on-premise or touch device deployment.