



INDUSTRY DEVELOPMENTS AND MODELS

IoT/Mobile/Cloud/Analytics: Ride Along with the Tour de France and Gain Insights into the Technology Behind the Scenes

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IDC OPINION

The digital economy – it is sometimes hard to extract what its true meaning and capabilities are until you can see and understand how it is used in real-life scenarios. The use of analytics in conjunction with the Internet of Things (IoT) is beginning to hit its stride and show its true value. Enterprises need to think of how they can take advantage of all the technology that has been developed over the past 10 years and use it to innovate and drive their businesses forward. Further:

- It is IDC's opinion that to do this, IT needs to be unencumbered by the day-to-day activities of running a datacenter and have IT teams work with line-of-business owners to take advantage of the technology that has been implemented.
- Companies like Dimension Data not only provide the capabilities to help run the day-to-day activities of the datacenter but have the ability to show enterprises how newer technologies can help create new business models. Dimension Data did just this for Amaury Sport Organization (A.S.O.), which is the owner and organizer of the Tour de France (TdF).

IN THIS STUDY

This IDC study looks at the technology behind the Tour de France to show how connected devices and providing real-time data to the tour's viewers are bringing new interest to the sport.

SITUATION OVERVIEW

Even if you are not a biking enthusiast (I am trying to be), the Tour de France is a must-see to appreciate. Dimension Data with Amaury Sport Organization has brought bike racing into the limelight, providing viewers with a plethora of data and insights. The Internet of Things, big data analytics, social, mobile, and cloud are technologies that can provide great capabilities for new business opportunities, and the way Dimension Data has used these technologies is a prime example of what can be done when you combine a sport and new technology.

A.S.O. was in a quandary of how to bring bike racing into the 21st century. Most other sports have data and information that users could consume on demand to help drive interaction and interest. In the NFL, you can gather data and information about any player at any point in time, which allows viewers to be more informed and makes them feel more a part of the sport. A.S.O., looking to duplicate what other sports have, had some basic needs when it turned to Dimension Data in 2014:

- Desire to further increase viewership
- Create a new way to interact with viewers
- Increase overall revenue growth

It may seem simple looking from the outside. Place sensors on the riders or the bikes, collect and analyze the data, and overlay the data on the TV broadcast or create an app that could be easily downloaded. Most sports that have this capability just duplicate it. But the Tour de France is like no other sporting event. Just imagine:

- 198 riders from 22 teams
- 42,000 geospatial points and 75 million GPS readings
- Live streaming from even the most remote stages

There were many logistical barriers:

- How do you collect data from an object moving, on average, over 25mph for over hundreds of miles of undulating terrain?
- How do you get all the teams and riders to agree to share this data?
- How do you get a device onto a bike or the rider in a fashion that would not compromise the rider's speed, but would have enough power to broadcast data for six hours at distance while being durable enough to take the harsh environment, including wind, rain, and hail; cobblestone streets causing severe shaking and vibration; and frequent crashes, breakdowns, bike swaps?
- How do you provide this data in real time to a live audience?
- How do you do all this over the varying terrains of 21 stages – including the highest mountains in Europe?

Dimension Data utilized IDC's four pillars (the use of mobile, social, cloud, and analytics) and innovation accelerators (being IoT) to help solve A.S.O.'s business problem.

FUTURE OUTLOOK

The Sensor (IoT)

The sensor, according to the Dimension Data executives in charge of the project, was one of the most difficult pieces to the TdF puzzle. Working together, A.S.O. and its technology partners tested many iterations of the sensor hardware and software until they found a winning combination of battery life, transmit protocol, and durability. Through this process, they were able to increase the distance the sensor was able to transmit from 100m in 2015 to 1km in 2016.

The sensor slips into a dock on the back of the riders' seat transmitting data once every second to gateways mounted on the television motorbikes and officials' cars, which then transmits the data via aircraft to the "big data" truck at the race finish line. These sensors were placed on all 198 riders' bikes to track all participants.

The Data (Big Data Truck)

Big data truck, a datacenter on wheels, just think about the design of that! Server, storage, and networking bouncing around for miles in between stages of the tour (21 stages all together and approximately 3,500km). First, there is Mother Nature to contend with. Heat, cold, rain, hail, and electrical storms – these are some of the factors one needs to consider when designing such a datacenter. Next power and cooling – each location on the tour needed to have a suitable location for the truck to reside. Last, enough connectivity at each one of the stage locations – including those that end at the top of mountains – to move 128 million total data records that were processed in the cloud over the 21 stages. The big data truck takes all this information in real time and graphically presents it to users.

Agile Cloud Datacenter Design

Once the big data truck has all of the information, it needs to get to Dimension Data's cloud datacenters where the data is replicated in triplicate. These agile datacenters allow for intense DevOps capabilities. Dimension Data teams around the globe now have access to all of the information and can in real time run different scenarios to show the data and information in interesting ways through social media channels.

Security

Such a high-profile solution is not without its security challenges. In fact, during the 2015 tour, there were 10.6 million reconnaissance scans for weaknesses in security perimeter – 4.5 million targeting **DimensionData.com**. Dimension Data had to ensure its entire solution was secure and failproof.

The Human Factor

None of this is possible without dedicated personnel. It is one thing to have the technology to accomplish this; it is another to have a team of people to figure out how to use it to solve complex business problems. This is the key in moving an enterprise forward – to have IT personnel that are free to think of how they can utilize technology to enhance the business. The best way to do this is to remove the mundane tasks they do on a day-to-day basis (monitoring, troubleshooting, installing technology) and have them work with line-of-business owners to solve business issues with technology. In 2015, Dimension Data signed on with A.S.O. and got the entire solution up and running in mere four months. This year, the company was able to make enhancements to last year's solution given the longer lead time. For both events, Dimension Data identified employees in multiple time zones so that the solution could be worked on and monitored 24 x 7.

Social/Mobile

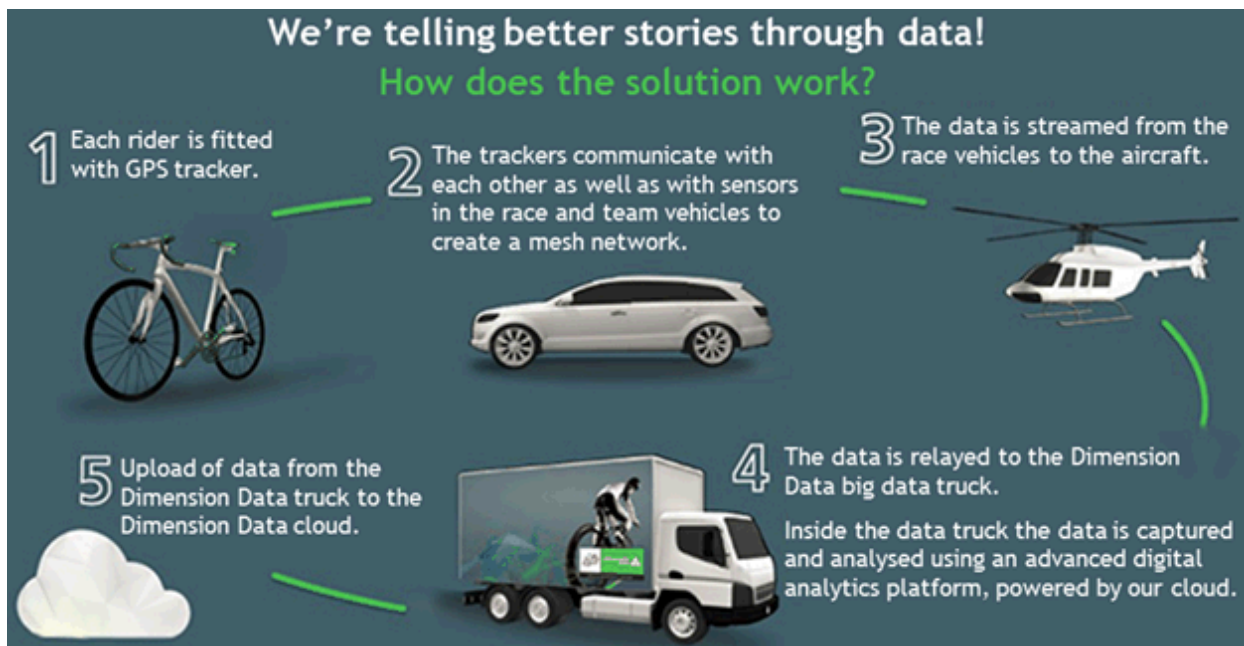
This study is the perfect use case of IDC's four pillars approach to enterprise use of technology to enhance business opportunity – cloud/analytics/social/mobile and how IoT can be utilized to deliver a better and more robust end-user experience. The information that was presented to the end user could be consumed in many different ways, whether it was an app on a tablet or a twitter account or statistics overlaid on the television broadcast. Dimension Data utilized almost every means of social media to deliver its contents.

During the Tour de France, there were 2.3 million engagements with our brand on social media, and the live-tracking site supported 17.8 million viewers and 2,000 page requests per second.

Figure 1 shows the path the data needs to take to be delivered in real time to viewers.

FIGURE 1

Following the Data



Source: IDC, 2016

Results

The "ask" that A.S.O. made was simple in nature: provide us with data (including individual rider locations and speed) and information to provide a richer experience to viewers, attract (new) viewers, and help grow interest in the sport as well as revenue. The development and execution of the solution was more complex. Despite the many challenges faced by such a monumental undertaking, Dimension Data's solution achieved 100% uptime. Therefore, it is IDC's opinion that Dimension Data was able to utilize technology and people to solve this "ask."

ESSENTIAL GUIDANCE

Enterprises must endeavor to understand and plan for what transforming to a digital business means for their company's strategic direction, IT investments, revenue models, internal processes, talent development, and ability to compete. Innovation and speed will be paramount for success. IDC believes that enterprises will either become adept at digital transformation and thrive in the market or fail to master the disciplines and struggle to survive.

As part of the digital transformation journey, an enterprise must assess its own strengths and capabilities to master the journey. IDC believes there must be a synergy between the business and technology executives to align goals and requirements, assess capabilities and shortfalls, evaluate partners and providers, and develop standards and milestones for success.

Each enterprise will be at its own unique point in its digital transformation journey. IDC recommends working with partners that have strong capabilities in helping assess where organizations reside in the transformational process and where organizations want to go at the conclusion of the journey. These partners should not only help determine where enterprises reside in the maturity curve of the transformational process but also have the ability to move the business along that transformational journey in a strategic and defined way that presents the least amount of risk and disruption to the business.

IDC believes that Dimension Data possesses the capabilities to help its customers on their successful journey toward digital transformation by providing the right combination of people, process, and technologies.

LEARN MORE

Related Research

- *Cut Operational Costs: Third-Party Maintainers for Legacy and Stable Datacenter Environments to Help Invest for the Future* (IDC #US41447716, June 2016)
- *Challenging Markets and Strong Competition Drives Tough Quarter for Lenovo* (IDC #lcUS41464316, June 2016)
- *EMC World 2016: A Modern Datacenter Requires a Modernized Service Experience* (IDC #AP41309816, May 2016)
- *Hewlett Packard Enterprise and CSC Announce Spin-Merger of HPE Enterprise Services Business Unit with CSC* (IDC #lcUS41338016, May 2016)
- *Worldwide Security Hardware Support Services Forecast, 2016-2020* (IDC #US41285215, May 2016)
- *Cisco Services Summit: Simplicity to Accelerate Customers Network Transformation* (IDC #US41285116, May 2016)
- *Topline: Enterprise Hardware Support Services Customer Satisfaction and Value Study* (IDC #US41275616, May 2016)
- *EMC's MyService360: Enhancing the Customer Experience Through Tools and Automation* (IDC #US41231316, May 2016)

Synopsis

This IDC study looks at the technology behind the Tour de France (TdF) to show how connected devices and providing real-time data to the tour's viewers are bringing new interest to the sport.

"The Internet of Things, big data analytics, social, mobile, and cloud technologies can help optimize business processes to gain operational efficiencies and can create new business opportunities," says Rob Brothers, vice president of IDC's Software and Hardware Support and Deployment Services. "Dimension Data used these technologies to help A.S.O. achieve its business goals of increasing viewership, creating new ways to interact with viewers, and increasing overall revenue growth."

About IDC

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