



Business challenge

Wi-Fi provider SolutionInc wanted to give its clients insight into user engagement with public Wi-Fi spots. To extract value from its Wi-Fi network data, SolutionInc needed a new analytics capability.

Transformation

SolutionInc uses IBM's managed Spark service, IBM Analytics for Apache Spark, to mine network activity data that reveals customer behavior as customers visit and move between different locations.



Glen Lavigne
President and Chief Executive Officer
SolutionInc

Business benefits:

241 million
data sets analyzed and
visualized rapidly in the
cloud

Enables
the development of new
location-based analytics
services

Supports
better design decisions to
adapt locations to customer
needs

SolutionInc Rapid big data analytics opens up new business opportunities

SolutionInc is a leader in managing public Internet access in hotels, convention centers, airports, coffee shops and other public venues around the world. The company offers on-premise and cloud-based solutions to provide high-demand public Wi-Fi solutions, enhancing the overall customer experience.

"Data analytics help customers translate investments in Wi-Fi solutions into a valuable business tool."

Glen Lavigne
President and Chief Executive Officer
SolutionInc

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Sitting on a wealth of data

SolutionInc provides wireless Internet access services to businesses that operate public venues, such as hotels, restaurants, stores, convention centers and airports, with over one million touchpoints worldwide. Every time a customer's device scans for Wi-Fi networks in one of these locations, the data is logged in SolutionInc's systems, to help the company manage its equipment and monitor connection performance.

SolutionInc realized that this data could be a potential goldmine for its clients. If it could analyze this huge mass of network activity data collected by its access points, it would be able to estimate, for example, how many people visited a coffee shop in the morning, how long they stayed, whether they chose to actually log in to the shop's Wi-Fi connection during their visit, and so on.

This type of behavioral insight could prove extremely valuable in helping clients design their locations, improve their marketing, optimize their staffing, increase efficiency and reduce costs. SolutionInc recognized that this presented a major opportunity to boost its revenues and increase client loyalty by developing new analytics services that would help its clients make these kinds of decisions.

Glen Lavigne, President and Chief Executive Officer at SolutionInc, says, "We wanted to turn our network activity data into real business insights that would help our clients run their operations more efficiently. But with 241 million database records from our access points in one city alone, identifying the valuable information amidst the 'background noise' of the rest of the data-set was a challenge."

To take advantage of this untapped data source, SolutionInc needed to find new ways to identify patterns and spot trends. It needed access to big data expertise and high-performance analytics tools to help seize this opportunity – and to maximize the benefits, it decided to harness next-generation big data technology.

"When our network specialists teamed up with IBM jStart, it was great to see how we could transform a huge, noisy set of data into relevant information that helps our clients see their locations in a whole new way. The joint expertise of our team and IBM was critical in finding the value in this data."

Glen Lavigne, President and Chief Executive Officer, SolutionInc

Embracing big data analytics in the cloud

While SolutionInc was working with IBM on a separate project to move some of its systems into the cloud, it was introduced to the IBM® jStart® team. The company quickly realized the potential of a collaboration with IBM jStart in the area of big data analytics.

Glen Lavigne recalls, "We were really impressed by the analytics capabilities demonstrated by the IBM team and quickly decided to work together with the jStart team to put our presence data to use."

In particular, SolutionInc was impressed with IBM's advocacy of Apache Spark – a platform that can deliver real results quickly, with much less complexity than existing big data technologies. Against the common perception of Spark as a complicated undertaking or “science project”, IBM showed how its IBM Analytics for Apache Spark service could provide an ideal platform for business-focused analysis and decision-making.

The company handed over a sample of its anonymized presence data, and the IBM jStart team set up a simple and accessible high-performance big data analytics environment using the managed Spark service on Bluemix. The team was able to deploy the analytics environment quickly and easily, so SolutionInc could immediately start tapping into the power and performance of the Apache Spark service.

IBM Analytics for Apache Spark provides a reliable, elastic service to support SolutionInc's big data – and because Spark benefits from in-memory processing, it delivers dramatically faster results, sometimes up to 100 times faster than other big data technologies. Moreover, as a managed service, Spark instances can be set up in minutes with no up-front costs. Finally, the simplicity of Spark involved a fraction of the coding effort and accelerated time-to-value.

To support an agile, iterative data exploration and analytics workflow, the team used a Jupyter Notebook – one of the many access points that users can leverage as part of the IBM Analytics for Apache Spark service. Gaining momentum in the big data universe, Notebooks are increasingly being adopted because they are so easy to use, and because they support richer and deeper analytics.

The Jupyter Notebook provides an easy-to-use, interactive computational environment that made it easy for the jStart team to explore data and present results in real time, via a standard web browser. Additionally, by leveraging the power and simplicity of the Python programming language, it enabled users to quickly access the Apache Spark cluster, develop innovative ways to analyze the data, and turn it into insight for business decision-makers.

Melissa Rodriguez Zynda, offering manager for IBM, says: “People today spend so much time and invest so much energy hopping from one tool to another to support different phases of data analysis. Jupyter Notebooks provide you with a single environment that supports all of these phases, from experimentation to reporting. They collapse the analysis-reporting cycle, which is a game-changer for any industry.”

Glen Lavigne comments, “The IBM jStart team really showed us the power of Spark and the Jupyter Notebooks – and now that we understand the potential of IBM's services around Spark, we're excited to take the next steps.

He adds: “We enjoyed working with the jStart team. It was a real team effort to identify the patterns of different types of Wi-Fi signals, so that we could differentiate, for example, between a signal from a device in a car that happens to be driving past a location at high speed, and a signal from someone who is walking down the street and might be a potential customer. The IBM specialists helped us filter out the noise, boil down the data into a number of patterns, and then leverage the Apache Spark solution to analyze and present new insights.”

Gaining business insights

By leveraging the IBM Analytics for Apache Spark service in the cloud, SolutionInc and IBM were able to rapidly process 241 million database records without devoting the time and investment required to build a Spark cluster on-premise. This made it possible to experiment with the data with very little risk: even if the project had not yielded any new insights, the cost to the business would have been minimal.

Glen Lavigne comments: “The IBM Analytics for Apache Spark service means that Spark is not an expensive option – so there’s no reason not to try it out. The smart economics of a pay-as-you-go software-as-a-service model make it worth experimenting – and in our case, the results could help us significantly expand the range of services we can offer our clients.”

The collaboration with IBM enabled SolutionInc to gain a better understanding of customer behavior in various locations across a large city. These insights are already providing a useful talking-point about how Wi-Fi presence analytics could help SolutionInc deepen its relationships with its clients.

Glen Lavigne elaborates, “Today, we can proactively discuss with our clients how the data is trending, and show them how they could benefit from big data analytics and location-based data in the future. Visualizing when their venues are busiest and how people move through their locations helps them understand their customers better, so they can optimize their business operations.”

SolutionInc is now looking into new opportunities for value-added services and ways to scale its big data analytics up across its entire global access point network. The company intends to offer new insights to customers as an enhancement to its network monitoring and usage reporting services.

Glen Lavigne remarks, “IBM was a perfect partner for this project; they brought an agile mindset that helped us iteratively refine our data. Although big data analytics is a steep learning curve for us, IBM has shown us how it’s possible to separate the signal from the noise. We can use what we learned from this project to start building up our own capabilities, and begin providing real ongoing business insights as a service for our clients.”

IBM Analytics for Apache Spark is not just a tool – it’s a big data analytics strategy, as Glen Lavigne concludes: “By leveraging IBM Analytics for Apache Spark, we were able to obtain insights on device traffic patterns. These analytics can help our customers translate their investment in a Wi-Fi solution into a valuable business tool.”

Solution components

- IBM® jStart® Team
- IBM Analytics for Apache Spark
- IBM Bluemix®

Take the next step

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