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IBM GIVES BLP A CLEAN EDGE

Bharat Light and Power (BLP) will use IBM's cloud, analytics, and mobile technologies to increase power generation and pre-empt failures

BY PUPUL DUTTA



EXPRESS COMPUTER

Bharat Light and Power (BLP) is one of the clean energy generation companies headquartered in Delhi. The company uses wind, solar, biomass and hydro technologies for power generation and also explores other advanced technologies such as energy storage and smart grids to better integrate renewable energy with the grid. It aims to address India's sustainable energy challenge by increasing its renewable energy generation capacity to one giga watt (GW) over the next few years.

According to industry estimates, approximately 400 million people in India do not have access to electricity. At the same time, India's energy infrastructure is highly strained, with an ever increasing demand for energy. To sustain its growth trajectory, the country needs to meet its energy demands in an environmentally sustainable manner.

According to IBM spokesperson, the Indian power sector has doubled its capacity in the last 10 years and is projected to add another 100GW in next five years. What's more, with fossil fuels exhausting fast, a good share of this growth will come from renewable energy sources. The scope of investments for renewables is estimated to be \$10-12 billion in next five years, making it ripe for global investments in India.

Recently, the company formed a 10-year strategic engagement with IBM to drive business growth, enhance revenue and increase operational efficiency. In this 10-year collaboration, BLP will use IBM's SoftLayer cloud capabilities, built on open standards, as well as IBM analytics and mobile solutions to increase its power generation capacity.

Challenges all the way

Talking about challenges, Balki G Iyer, chief development officer, BLP explains that India is way behind in terms of energy generation and given that we (India) are also among the top five carbon dioxide emitting countries, there is a long way ahead to achieving the optimum power generation level. "The key challenge before us is the operational efficiency of these power plants. Are they performing to the standards and more importantly, can we do more than what is

happening right now?," quips Balki.

He further adds saying, the biggest driver for any power plant is fuel prices and the supply of fuel. "The best part about wind energy is that the fuel is free, so we have to see how we can leverage this resource and get more efficiency out of these plants that are existing today. Basically, a particular power plant today maybe producing 'x' units, so how do we get 'x' plus. We are trying to come up with disruptive innovation and a kind of paradigm on how we operate renewable plants here," he says.

As far as technology challenges are concerned, most of these wind or solar farms are at very remote places where connectivity and access is a problem. "Sometimes, it takes almost few hours to get to the plant," notes Balki.

"The critical thing is that when you have field staff who are typically skilled technicians, the only thing not achievable for them is that they may not have bird's eye view of what's happening at the farm level. They may be looking at certain things at certain turbine level, so how do you create the farm view? Secondly, it is important to leverage technology - big data and analytics to see trends and paradigms that are underlying and cannot be perceived from a naked eye," he explains.

With big data and analytics, streaming of a trend or problem becomes easier. What's more, pre-empting failure too becomes a reality. One can get situational awareness back at the field with the help of technology. "So, what we are trying to solve here is how do we get real time data and how do we start being proactive instead of being more reactive. Today, if the turbine stops then people go and dispatch field staff to fix it. Now, we actually take the power of data and analytics and all the concepts of mobile and social to see how we can get out quick reactions and reach the field," claims Balki.

Quick fixes

IBM is working with BLP to help the company manage, and effectively use the vast amount of data generated by the power generation sources. With efficient and predictive analysis of data, energy producers can better manage their resources, take necessary precautionary



measures, and improve overall productivity. IBM has deployed its SoftLayer cloud infrastructure as a service to centrally monitor and manage BLP's existing and future generation plants as well as store and manage the data on cloud.

SoftLayer, is a recent acquisition by the IT major which has a client base of about 21,000. With this, the company can now offer a breakthrough capability that provides an easy "on ramp" solution for governments and businesses to adopt cloud. It will allow cloud services to be created very quickly on dedicated servers rather than on virtual ones, which is the norm in the public cloud. By building out a cloud on a dedicated server, a client no longer has to worry about sharing computing resources with other companies, thereby radically improving privacy, security and overall computing performance.

"IBM and BLP's big data analytics capabilities will help gather valuable insights from the data generated, which will ensure that BLP has an integrated view of its operations and is equipped to take pro-active measures. Using IBM's mobile technology, the company will be able to provide all the information analysed on the cloud platform to its ground staff on their handsets and alert them well in advance. This will enable BLP to build smarter operations with higher efficiency and greater utilisation," explains Prashant Pradhan, business head, Smarter Planet and Industry Solutions, GTS, IBM India/SA.

BLP is now able to generate more units of electricity for the same level of CAPEX and OPEX involved. "Being able to produce more out of the existing infrastructure, simply means that as a country we are better utilising the resources, especially wind and solar. The more I can produce the

better you are utilising the natural resources," Balki notes.

"Overall, better streamlining of operations and being able to get real time information about what is working where are BLP's biggest takeaways," says Pradhan.

Pointing out the single most beneficial factor, Balki says that increased generation of units of electricity helped BLP achieve its targets soon. It has also translated into increase in revenue. BLP has currently deployed the solution in only Maharashtra and Gujarat, with a control room in Bangalore that takes real time information, assesses it through certain kind of analytics and rule engines and provides a real time situation awareness of the field. However, the company will be building scale on the same.