

Managing 110 million subscribers like clockwork

Overview

Challenge

Bharti Airtel faced dropping average revenue per user (ARPU) and skyrocketing growth; it needed to find a way to execute flawlessly using as much automation as possible.

Solution

Bharti Airtel's SMART SOA™ solution with IBM® WebSphere® technologies enables the company to outsource its IT to IBM and other strategic partners and integrate its systems in order to automate routine transactions and hone customer service.

Key Benefits

- Ability to provide flawless service to 110 million customers at low margins
 - Employee productivity improved using business activity monitoring
 - Real-time responses to customer requests
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If Bharti Airtel's 110 million subscribers were a country, it would be the 11th largest in the world—smaller than Japan, but larger than Mexico. Bharti Airtel is India's largest cellular service provider and the world's third-largest single-country mobile operator. In India, Bharti Airtel's subscribers represent less than one-tenth of the existing opportunity, so there is a lot of room for growth, but how do you manage an enormous subscriber base and still grow cost effectively?

The cost-conscious consumer and the cut-throat competition make for a difficult operating environment. For example, there's the challenge of servicing a user base with steadily declining average revenue per user (ARPU). In India's rural areas, where the company is finding most of its new customers, that figure drops to about 50 or 70 Rs., or approximately \$1.25 per month. That covers the cost of a few telephone calls at \$.01 - .015 per minute. If it doesn't, Bharti Airtel has more than 10 competitors who would be happy to take the fare. But does it cover the cost of a service call? Not unless the business processes are automated to the highest degree possible and the service is absolutely stellar—there's no room for error.

Integrating strategic partners

One way Bharti Airtel keeps costs under control is by outsourcing its IT operations. IBM handles more than 80 percent of this business, cutting across 700 applications and 3,000 to 3,500 servers, but the remaining 20 percent is handled by strategic partners who represent an integration challenge.

“How do I bring together the utility model for the entire infrastructure?” asks Mehul Shah, chief architect. That's where the principles of service-oriented architecture (SOA) come in along with the concept of reusable services.

The SOA framework that Bharti Airtel has put together is entirely based on the IBM WebSphere stack of technologies that starts with IBM WebSphere Application Server, and includes IBM WebSphere



Smarter telecommunications

Bharti Airtel faces a competitive market and low average revenue per user (ARPU) numbers, which means that it must automate its business process in order to grow and provide outstanding current service to its enormous 110 million subscriber base. Thanks to a SMART SOA solution based on IBM hardware and software, the telecommunications giant is executing like clockwork, and working smarter the larger it becomes. Business intelligence linked to its dashboard business activity monitoring solution enables the company to tweak its customer service and resolve any bottlenecks.



Portal and WebSphere Business Services Fabric. In addition, the company is using IBM DB2® for data management and IBM Cognos® 8 Business Intelligence 8.4 for business intelligence. The IBM software runs on IBM Power Systems™ servers. “Our SMART SOA enables all the pieces to work together even though we have a fairly heterogeneous environment,” Mr. Shah observes. “That’s what enables us to provide a great quality of service at a low cost to our customers. With our SMART SOA, our business runs like clockwork.”

Real-time responses

An example of the type of transaction that has to run flawlessly by itself is transferring money into a customer account to provide more call time. “We are largely a prepaid model,” says Mr. Shah. “To recharge an account at Rs. 10, the customer sends one short text message and the account is recharged in real time. In the process, the transaction goes through 3 to 5 systems, and there are 8 to 10 million of these transactions daily. Without the SMART SOA solution, it would not be possible for all these different products to talk to each other. This solution has made us more agile.”

According to Mr. Shah, Bharti Airtel’s telecom business could be built of 600 to 800 software services integrated into the SOA. To date, the company has built approximately 150 reusable services handling seven to eight million transactions per day. “We are more than halfway through the journey,” he says.

Solution Components

Server

- IBM Power Systems™

Software

- IBM® WebSphere® Application Server
 - IBM WebSphere Portal
 - IBM WebSphere Business Services Fabric
 - IBM Cognos® 8 Business Intelligence 8.4
 - IBM DB2®
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“Thanks to IBM, we’re working smarter the bigger we get. Our partnership with IBM has brought us the right level of business understanding and the right level of technology understanding to achieve this kind of scale and agility.”

—Mehul Shah, Chief Architect, Bharti Airtel



Improving customer service

The SOA dashboard tells Mr. Shah how many customer service activations have happened up to the hour in each of the tiers. The SOA dashboard tracks 150 services in three tiers. Tier one and tier two are urban areas, and tier three is rural areas.

“The reason it is important to track them this way is because they are different business models and different channels that we work with,” he says. “And we make different investments in them. So it’s very important that we know what’s happening on an hourly and daily basis, and that aggregates to weekly, monthly and quarterly. For instance, the dashboard tells me if there are any activation backlogs over 25, so that we can address the issue of employee productivity and ultimately improve customer service.”

Enabling hypergrowth

Bharti Airtel activates three to four million new customers per month. “Without SOA, adding three million customers per month would be a stretch,” says Mr. Shah. “SOA is an enabler of our hypergrowth.”

Soon there will be 600 to 800 reusable services that will be part of the SOA fabric. “The data collected through these services will migrate into the SOA dashboard as well as into an analytical solution framework, which we will be building with IBM Cognos,” he says.

“This will help us slice and dice data to get a picture of employee productivity, sales force productivity, service activation times and quality of service. Thanks to IBM, we’re working smarter the bigger we get. Our partnership with IBM has brought us the right level of business understanding and the right level of technology understanding to achieve this kind of scale and agility.”

For more information

Contact your IBM sales representative or IBM Business Partner, or visit us at: ibm.com/websphere

For information on Bharti Airtel, visit: www.airtel.in



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