

# OPERA MINI

CASE STUDY: TATA TELESERVICES



## **Executive summary**

*In creating a pan-India mobile Internet solution, Tata Teleservices aimed to bring diverse but simple offers to the masses, targeting specific customer groups. Targeting enterprise customers, small business, youth, and skilled and unskilled workers, Tata sought to extend its reach to the rural parts of India, where PC ownership and Internet access were uncommon. For Tata, the most basic mobile handsets would serve as a gateway to Internet access for this customer segment. With the support of the Tata Group and a vision for widespread mobile Internet throughout rural India, Tata Teleservices needed technical solutions to implement this vision and forged strong industry partnerships to tailor offers and services for its target customers.*

*Opera Software shares Tata Teleservices' commitment to spreading universal Internet access to users, regardless of location or device. Opera's vision to provide the best possible Internet experience on any device, coupled with its flexible, customizable technology makes Opera an ideal technical solution. Opera's flexibility is one of its greatest strengths, meaning that when Tata Teleservices presented its set of needs, Opera could meet the challenges posed. Together, Tata Teleservices and Opera Software launched a customized, localized browser on low-end mobile phones on the BREW platform, just as Opera has done on other platforms, on a whole range of mobile handsets, internationally.*

*To enable the Tata proposition from a technical point of view, Tata needed to have a strong network that could reach the rural areas of India reliably and would offer the kind of speed and seamlessness mobile Internet users require to find the service both usable and worthwhile. To make this materially possible, the handset portfolio on offer would have to reflect affordability for the rural population the offer targeted, which meant lower-end handsets that can—but are not necessarily designed to—browse the Internet. With these foundations in place, Tata then needed to be sure its solution could be customized and fully localized, not only for branding purposes, but also for more educational purposes, i.e., offering localized instruction and guidance to customers with no previous Internet experience.*

*Tata Teleservices' industry partnerships were key factors in executing Tata's plans. Tata partner Qualcomm was a key driver of CDMA network standards and owns many CDMA patents as well as owning the proprietary BREW application development platform on which the handsets in Tata's proposition would run. BREW content and applications have enhanced the Tata offer, feeding into Tata's strategy to differentiate its data offerings and expand the availability of value-added services to low-end devices, while growing ARPU.*

*Opera Software also proved to be an invaluable partner for Tata in implementing the Opera Mini solution. Opera Mini's platform independence meant crucial compatibility with the BREW platform; Opera Mini's small footprint, low battery consumption and low CPU requirements empowered low-end handsets with full Internet access; Opera Mini's compression technology kept unusually high levels of data transfer flowing. Opera Mini fully enables customization and localization, which was an important selling point for Tata.*

## The challenge

In emerging markets, the mobile handset is often the primary—perhaps only—means by which people access the Internet. This creates both challenges and opportunities for operators throughout the developing world. Each market is quite different in terms of the technical constraints, resource availability, regulatory requirements and accessibility needs of the region or population in question. Operators seeking to gain a foothold in these markets need to understand the unique demands of these marketplaces and tailor their approach accordingly.

Incorporated in 1996, Tata Teleservices, as a part of the Tata Group conglomerate, already enjoyed strong brand recognition and played a leading role in the Indian telecom sector, actively developing and offering technologies and services in both fixed and mobile telephony. Tata Teleservices possessed an intrinsic understanding of the marketplace it sought to serve and were well positioned to create an offering that would meet the needs of their target population.

Within this framework, Tata Teleservices wanted to reach and empower the masses of rural India with mobile Internet access. Tata was first and foremost interested in providing widespread access but also wanted to differentiate and increase its revenue with value-added services. Armed with both a strong understanding of the marketplace and the resources and brand clout needed to make its rural mobile Internet venture successful, Tata sought industry partners that could meet its technical needs and lower its costs.

To bring the mobile Internet to a pan-India population, Tata would have to bring affordable handsets to its target market. To ensure that the Internet and all its functions would work on a wide array of lower-end handsets (or virtually any handset Tata were to add to its profile), Tata needed a tool that could deliver a full, fast Internet experience, as well as unique market-specific features. Tata evaluated its options and found that Opera Mini met these needs. Beyond that, Opera Software shared one of Tata's overarching visions: to enable and spread the Internet everywhere—essentially to democratize Internet access.

## Brief history and background

According to the United Nations, mobile handsets outnumber personal computers in India by far. In 2006, there were 2.8 PCs (figure 1) compared with 15 mobile subscriptions (figure 2) per 100 people<sup>1</sup>.

UN statistics also indicate that there were 10.7 Internet users per 100 people<sup>2</sup>. While some use can be attributed to the aforementioned PC owners as well as to Internet cafes in India, some part of this percentage can be attributed to accessing the Internet on mobile handsets. Additionally, these numbers indicate that real growth and expansion are happening in the much more accessible mobile realm, thanks to lower barriers to entry and fewer resource requirements for operation, as opposed to the personal computer arena.

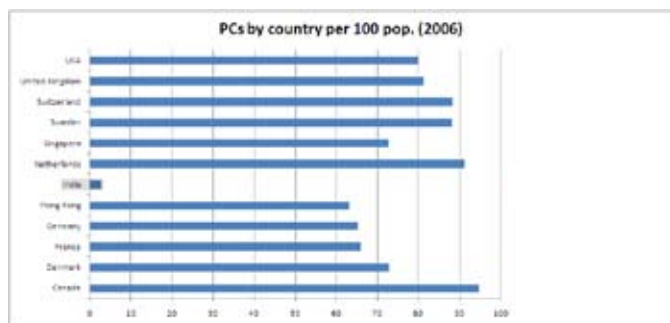


Figure 1, PC ownership by country per 100 population, illustrating comparatively low penetration in India

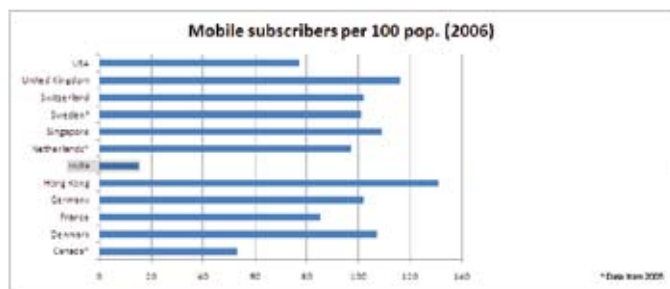


Figure 2, Mobile subscribers by country per 100 population; one-third more mobile subscriptions than PC owners exist in India

At present, only about five percent of India's population accesses the Internet. However, this reflects a 1,100 percent growth in use over the past eight years<sup>3</sup>. Being able to capitalize on the staggering pace of growth and lack of existing legacy infrastructure are key factors in bringing the mobile Internet to people throughout India. In fact, both fast-paced growth and a lack of existing technology are not a hindrance but a springboard for rapid adoption of new technologies in a market such as India.

Recognizing the inherent potential of this growth, Tata Teleservices seized the opportunity to expand its reach in India. In 2002, Tata acquired Hughes Telecom (India) Limited, which extended Tata's reach to Mumbai and the rest of Maharashtra telecom circles. Tata Teleservices today has a pan-India presence with operations across 22 circles and a retail presence over 320,000 villages and towns. Tata launched the CDMA 2000 technology platform in India, creating the reliable, technologically advanced network infrastructure needed to lay the groundwork for broadening the Tata offer across India. In concert with building the technical foundations for implementing its vision, Tata began to forge partnerships with key industry participants, such as Motorola, Ericsson, Lucent, and ECI Telecom to deploy its network throughout India. To deliver Tata's "Internet for everyone" vision, Tata turned to Opera Software.

<sup>1</sup> <http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=607>, November 29, 2008. <http://data.un.org/Data.aspx?q=cellular&d=MDG&f=seriesRowID:756>, November 29, 2008

<sup>2</sup> <http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=605>, November 29, 2008

<sup>3</sup> <http://www.internetworldstats.com/stats3.htm>, December 5, 2008

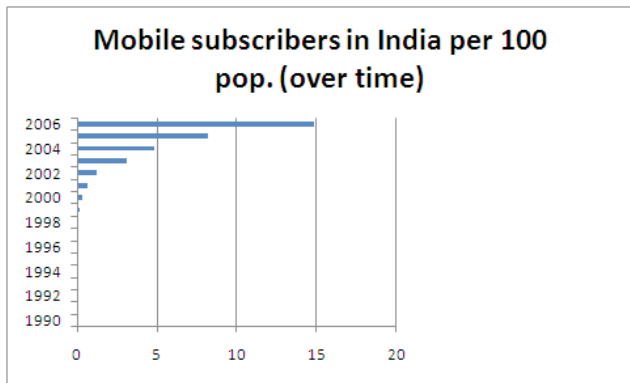


Figure 3, Growth in mobile subscriptions in India, 1990-2006

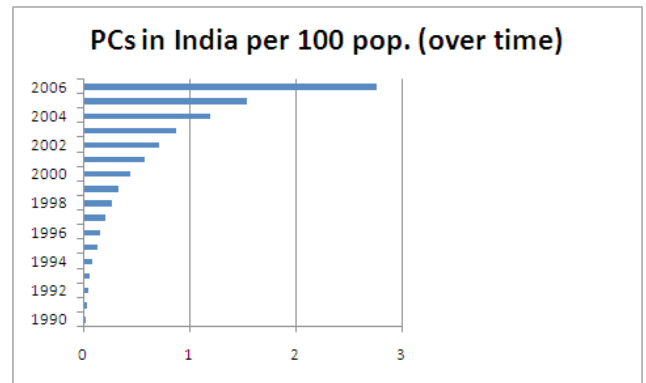


Figure 4, Growth in PC ownership in India, 1990-2006

## Solution

With the overarching strategy of spreading the mobile Internet throughout rural India, Tata knew it faced unique challenges. Strategic partnerships proved to be essential in facilitating Tata's vision. Tata recognized that Opera was the ideal vehicle for handling the considerable customization required in order to communicate with, educate, and encourage mobile Internet use among the rural population. Opera Mini was also the ideal technical solution because of its platform independence and ability to be easily ported across various BREW versions, enabling quick launches and opening up possibilities for implementation on virtually any handset. Opera Mini servers do all the processing and rendering, making a high-powered CPU/chipset unnecessary; server-side data compression also reduces bandwidth congestion and allows more users to be active on the network without compromising the browsing experience. Another significant technical advantage offered by the Opera Mini solution is lower battery usage; in a market like India, where mobile telephony has reached places where electricity is intermittent or rare, heavy demands on a mobile handset's battery life are prohibitive. The "heavy lifting" of Internet browsing is done on the Opera Mini servers and battery life is conserved.

Tata's target population was comprised of people who had most likely never seen or used the Internet before on any device. A significant learning curve existed to introduce this tool to a population for whom the mobile Internet was their only exposure to the Internet. Users would need not just education on mobile technology and Internet access; they would need more fundamental guidance about what the Internet itself is and how it could be useful for them. Additionally, to make a real mark in the target market, the Internet browser had to be capable of rendering local language fonts, to transcode local languages on servers. Throughout India, the English language is dwarfed in use by Hindi, for example. Reaching these populations would require exceptional localization efforts, made much easier with localization options in Opera Mini.

For implementation to take place, consumers had to have the tools with which to access the Internet in the first place. Tata initially launched its Opera Mini solution on five different lower-end handsets with plans to add more over time. Opera Mini would be available only over-the-air (OTA) via the BREW catalog.

Tata selected Opera Software as a partner not just because of the shared vision of giving Internet access to everyone, everywhere, but also for tangible reasons. Opera Mini met Tata's needs in terms of being able to support a unique delivery, technical demands and customization requirements.

### Customizability

Customizability was potentially the most important benefit for Tata in adopting Opera Mini. Being able to implement and have full control of the customization of applications and features specific to the rural Indian market was of the utmost importance to Tata. The target rural population, as first-time Internet users, required content that educated and guided them

## TATA HANDSET PORTFOLIO

Huawei 2900i

Motorola K1

Motorola L7C

Samsung Max

Samsung 20N



Huawei 2900i



Motorola L7C



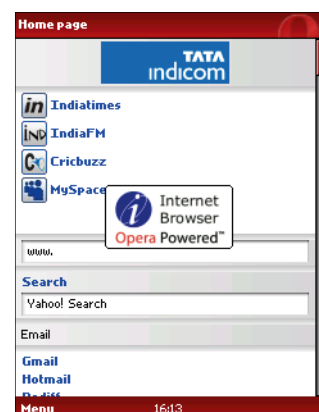
Motorola K1



Samsung Max



Samsung 20N



in Internet use (from how to use the applications to what kinds of sites to visit). This population also required content in local languages. Opera Mini enables full customization and supports transcoding of local languages, such as Hindi (used by over 60 percent of India's population, as opposed to English, which is used by only five percent) on its servers. This allowed Tata to reach its customers directly in their own languages with content that would be useful and instructional, as well as driving usage. This customizability would also build a foundation for expanding Tata's value-added services.

### Usability

Opera Mini's simplicity and usability also played a role in Tata's decision to implement the Opera Mini browser. Customizability and usability go hand-in-hand. Because the mobile Web experience might be the only online experience for most rural customers in India, a simple, usable, customized browser was important. The mobile Internet would be of little use to Tata's customers if they could not access local sites in local languages – this kind of usability needed to be seamless. Tata could drive the user experience and increase use if its customization played to the strengths of Opera Mini's flexibility.

**In under ten months, the Tata mobile Internet offer grew to 23% of the target audience.**

**The least expensive handset in the portfolio (the Huawei 2900i) is generating the most revenue and number of users.**

### Ease of integration: Any handset

Apart from Opera Mini's hallmark traits (a small footprint and platform independence), Opera Mini's ability to work on almost any handset was another critical factor for Tata. The price point at which the target rural customer would be able to afford a handset would be considerably lower than in the developed world. The need to reach the potential customer base with products they could afford meant that the browser of choice would need to be able to work on lower-end handsets. As Tata aims to expand the portfolio of handsets to offer even lower-priced options, this ease of integration becomes more important. Customization undertaken by Tata would also need to be consistent across the board for all handsets offered. Opera Mini allowed for this.

While Opera affirms that Opera Mini operates on any Java- or BREW-enabled handset, until the Tata partnership, all previous Opera Mini implementations were Java based. Tata was the first customer porting Opera Mini on the BREW platform. This implementation demonstrated Tata's faith in the Opera partnership and set the stage for offering BREW applications to end users.

### Data compression: Optimized data traffic flow and enhanced user experience

Usage statistics show extreme data use in India compared to average global use. The global average per person per month is within the 4 to 6 MB range while for Tata, the average monthly use per person is 30 to 35 MB. The Opera Mini solution ensures that heavy network traffic flows by compressing the data on Opera Mini servers before sending the Web pages to the handset.

#### MONTHLY DATA USE

**Global = 4 - 6 MB**

**TATA = 30 - 35 MB**

Data compression on the server side meant faster page loads and that the end user experienced faster overall Web surfing without sacrificing the quality of the Web. Compression does not alter the content. The combination of Tata's reliable, advanced CDMA (and from January 2009, also GSM) networks and Opera Mini's instant access to the full Web provided a superior user experience for end users.

### The Tata proposition

After discovering Opera in early 2007 and approaching Opera about a partnership in the middle of the same year, Tata officially signed with Opera in July 2007 to offer the customized Opera Mini browser on five devices. Tata Teleservices launched its proposition in November 2007 by making the Opera Mini client available for download OTA. Working together, Tata and Opera were able to offer a browser that met the needs of Tata's target population, truly harnessing the power of customization by using custom options to help provide guidance to Internet newcomers. Tata's initial portfolio was distributed in 3,400 retail shops in 1,200 towns across India.

### Results so far

From the November (2007) launch of the Tata-Opera Mini partnership, the usage results have been encouraging and have mostly reflected growth. The number of unique users (figure 5) of the service grew steadily in the spring and summer, leveling off in the autumn. During a launch period, it is normal for the number of unique users to grow but for the number of users to level out over time; many more users will try a service than will adopt it to use on a regular basis. Though the number of unique users dropped, the approximate user conversion rate of 60 percent is quite healthy.

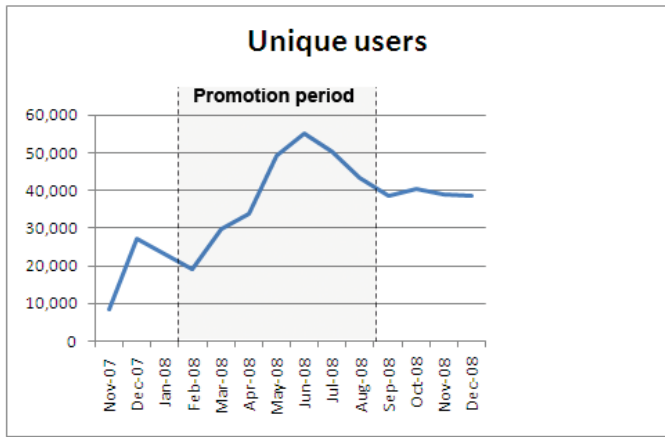


Figure 5, Unique users of Opera Mini browser, Nov. 2007-Dec. 2008

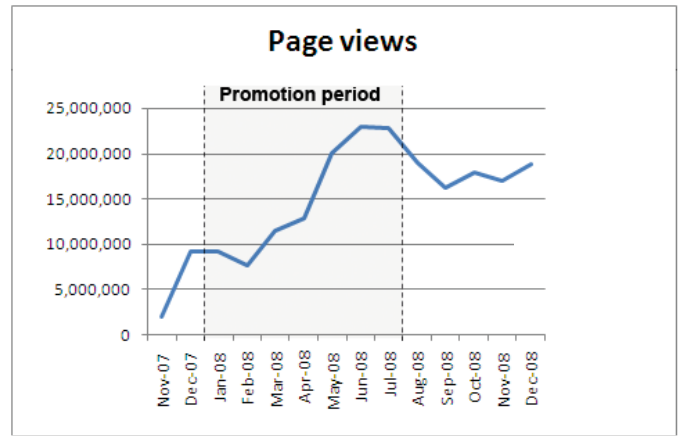


Figure 6, Total page views with Opera Mini browser, Nov. 2007-Dec. 2008

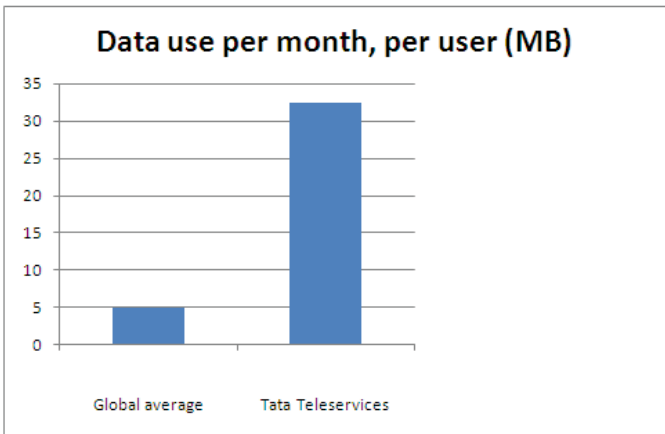


Figure 7, Global data usage v. Tata Teleservices data usage per month

The number of users also started to decline as the promotional period ended, as with all new products after their initial introduction. User numbers remain solid, even without above-the-line promotion for the service, indicating that the product enjoys strength and growth even after initial market euphoria (figure 5). After the launch of the service, data usage and page views increased rapidly, particularly in the summer months. This can be attributed mostly to Tata's promotional activities during the growth period and to the introduction of new handsets to the portfolio. Additionally, usage increased during summer because many users indicated that they used the service more during the summer holiday period (figure 6).

Page views decline at the start of the fall but remain fairly stable and even show slight growth. An upward trend in page views is apparent and steady, even if slow. Again this could be attributed to the pattern of adoption of the mobile service. A core of steady users continues to use and tend to have stable usage behavior, which is reflected in

the leveling out and slow growth (figure 6).

While the growth of the service is important and shows the potential for mobile Internet use in developing markets, the sheer volume of data transfer is clearly the distinguishing feature for Tata and the Indian market as a whole. On Opera Mini, Tata users average a monthly data-use rate of 30 to 35 MB, which far exceeds average use in the rest of the world (figure 7). The reliable, quick CDMA network combined with the fact that the mobile handset is the only means by which most of the rural Indian population accesses the Internet can explain why the data use per user is exceptionally high. Additionally, Tata's flat tariff structure encourages use and, on the whole, Indian customers surf more graphic-intensive rather than text-based content. The more a user goes online and uses these mobile Internet services, the more services, applications or content may be in demand in the future, setting the stage for offering any number of value-added services. This feeds into the general value-added services strategy (figures 8,9).

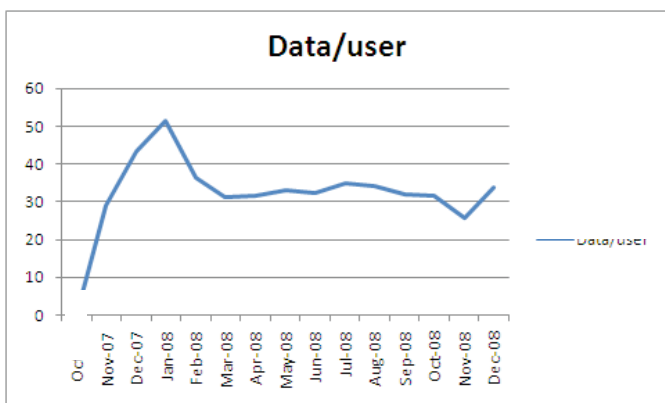


Figure 8, Data usage per user, Nov. 2007-Dec. 2008

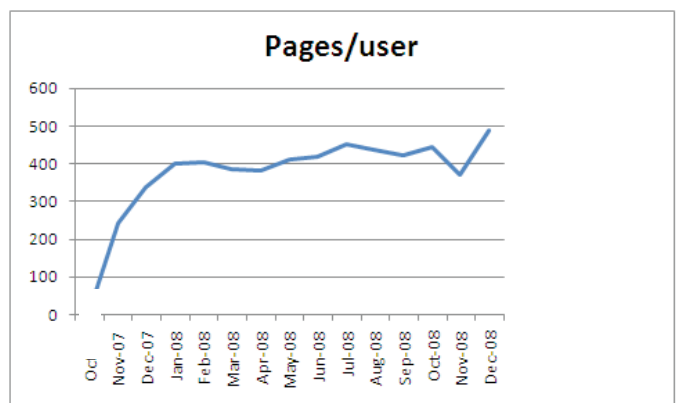


Figure 9, Pages accessed per user, Nov. 2007-Dec. 2008

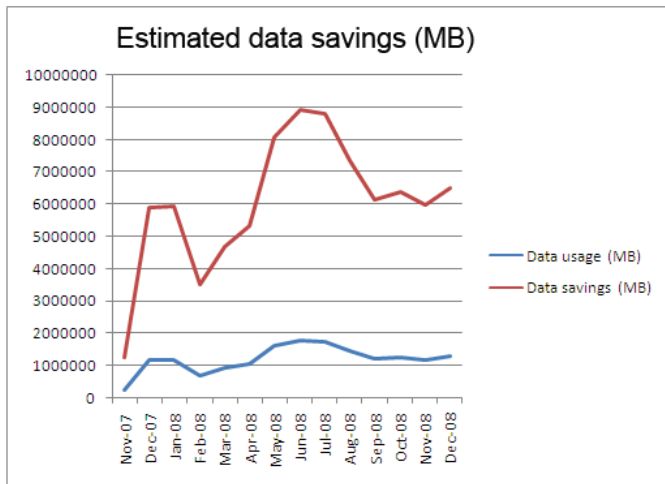


Figure 10, Estimated data savings, illustrating actual data used without Opera Mini data compression, Nov. 2007-Dec. 2008

Opera Mini’s data compression enables the flow of network traffic and provides faster page delivery, which was important for Tata because of the very heavy data traffic demands on the network.

Opera Mini’s data compression saved an estimated **85 million MB** between November 2007 to December 2008.

## The winning formula: How Tata Teleservices brought Opera Mini to market

Tata’s vision, powered by Opera Mini, came to fruition after Tata made several critical decisions and steps.

### Clear vision and Internet strategy

Tata Teleservices has always promoted mobile Internet use in the mass market in India but had a very clear strategy aiming specifically to bring the mobile Internet to rural India as well as to consumers throughout India. In mapping out and following this vision, Tata pursued technical partnerships that would enable the implementation of this vision.

“We brought the world’s best mobile Web browsing experiences to India with a unique local flavor. We believe that the Indian market will widely accept the product as it provides consumers with the information they wish on their mobile phones, in the language they understand. Tata Indicom’s superior CDMA capabilities and continued innovation, together with Opera Mini’s intuitive and unique capabilities, bring a complete and user-friendly browsing experience to our customers,” said Pankaj Sethi, President, Corporate Services, Tata Teleservices Ltd. “This innovation is an important step in breaking the language barrier and extending the power of the Internet on mobile devices to everyone,” he added.

*“We brought the world’s best mobile Web browsing experiences to India with a unique local flavor. We believe that the Indian market will widely accept the product as it provides consumers with the information they wish on their mobile phones, in the language they understand.”*

*Tata Indicom’s superior CDMA capabilities and continued innovation, together with Opera Mini’s intuitive and unique capabilities, bring a complete and user-friendly browsing experience to our customers.” - Pankaj Sethi, President, Corporate Services, Tata Teleservices Ltd.*

### Strategic partnerships

Tata Teleservices knew early on that bringing its mobile Internet vision to the masses would require strong strategic partnerships.

To meet the demands of the market, Tata turned to and partnered with industry leaders to create a stable, advanced CDMA network through which the target population would go online. Qualcomm, one of the drivers of the CDMA network standards, is a key Tata partner. Qualcomm’s BREW application development platform enables Tata to differentiate and expand its value-added services while enhancing the offer and extending availability to lower-end devices with the Qualcomm Single Chip family of solutions and to a larger number of subscribers (particularly in rural India) with BREW’s availability in Hindi.

The same reasoning applied when Tata needed a partner that could provide a browser for mass-market, BREW-enabled handsets and that could handle the kinds of customization Tata needed to do to reach the target population. Opera Mini met these needs.

**Customization and market-specific modules**

In general, a customized solution fosters greater brand loyalty and ultimately gives full creative and content-related control to the operator. The tailor-made Opera Mini solution for Tata offers a customized dynamic home page with full brand integration of the user interface, focused on educating first-time Internet users. For any operator, customization is an important part of differentiating the brand; for Tata, custom content was also important as a means to educate and communicate with its customers. Furthermore, control of content being served to consumers allows for exploration of new revenue streams and capitalizing on the content market. Market- or country-specific customization and content filtering can also be accommodated (for example, in India, there is a lawful-interception module to comply with a government regulation).



Opera Mini Tamil



Opera Mini Hindi



Opera Mini Urdu

**Pricing: Simple, flat-rate, understandable**

Tata provides a flat-rate pricing plan to its users that is simple to understand and mirrors the pricing structure consumers are used to seeing in Internet cafes. The flat-fee packages are available to pre-paid and post-paid customers at a price of 10 INR for one day, 30 INR for seven days and 49 INR for 15 days (a kind of per-day, per-week, per-month pricing scheme). This allows the consumer the flexibility to predict and/or decide what amount s/he intends to use. There are no data limits imposed, so the customer is clear about what s/he will be paying for on his/her monthly bill.

**Network infrastructure**

Studies indicate that network quality is an important factor in driving usage—faster data transfer encourages use and consumer adoption/continued growth in use. As a part of moving forward with its vision, Tata ensured that the network on which users would access the mobile Internet would be reliable, quick and build usage.

Tata's network is CDMA2000, the core 3G CDMA2000 technology. CDMA optimizes the use of available bandwidth by allowing many signals to exist on a single transmission channel. CDMA2000 can support mobile data communications of up to 307 kbps in a single 1.25 MHz channel and features include increased voice capacity, higher capacity for high-speed data and support for numerous applications (for example, SMS, MMS, games, GPS-based location services and entertainment downloads). CDMA2000 is essentially designed to advance existing technology, i.e., expanding voice capacity and supporting always-on data transmission at speeds up to ten times faster than currently available.

For the third consecutive year, the Telecom Regulatory Authority of India has rated Tata Teleservices at the highest level in terms of offering the best network and services. What this means for customers is that they have the ability to be in touch consistently with their friends and family; customers are not looking at product offerings as differentiators.

Sharing his views as chief technology officer, A.G. Rao stated, "As telecommunication services evolve and competition stiffens, service providers need new ways to streamline processes, meet service-level goals and improve on all parameters. This is where the TTSL policy helps—of ensuring that our customers experience the advantages of our network, crystal clear voice quality and minimal call drops. This is the third consecutive time that the Telecom Regulatory Authority of India Report on Network Congestion has rated TTSL as the best amongst all pan-India telecom operators. It is a proud achievement for us—and a validation of the extraordinary standards that we have set for our network."

**TATA TARIFF STRUCTURE**

- One day: 10 INR
- Seven days: 30 INR
- Fifteen days: 49 INR
- One month: 99 INR
- No data transfer limits. Simple, flat-rate pricing.
- Seven-day free trial.

After India's Department of Telecom decided to allow companies with unified access service licenses to deploy mixed technologies, Tata Teleservices applied for permission to offer GSM services. Tata gained the sought-after GSM spectrum and will offer GSM services from January 2009.

### **Marketing**

While full-scale marketing has not yet been part of Tata's strategy with regard to Opera Mini, marketing activity encompassing Opera Mini's availability will ensue in the first quarter of 2009. Tata has delayed a bigger marketing push until Opera Mini became available on additional, less expensive handsets (to reach even more customers at a lower price point). Meanwhile more grassroots methods of supporting Opera Mini have introduced the service to potential users. Tata pushes promotional SMS messages that advertise the availability of Opera Mini. Also, point-of-sale representatives are well-trained advocates of Tata's mobile Internet offer, informing potential subscribers about Opera Mini and the services available, as well as describing its use and educating consumers.

Tata has employed other methods, such as advertising enclosed with customer bills, top-of-deck positioning on the mobile portal and free seven-day trial use of the mobile Internet service on Opera Mini to encourage download and use. (The Tata handset portfolio offered Opera Mini exclusively via over-the-air download; no pre-installed versions of Opera Mini existed. All the growth Tata has seen in use has come as the result of very basic forms of promotion and convincing users to download the Opera Mini application.) The innovative nature of the offer made the free trial period necessary to convince the more apprehensive buyer to try it out and assess its usability and performance before committing to subscribing to the service.

Through the marketing channels Tata did employ, Tata emphasized its unique value proposition, condensing the message to four key points: access affordability (inexpensive handsets), simplicity (user friendly), pricing flexibility (straightforward, simple pricing structure offering a choice of subscription), and multilingual support (crucial in multilingual, multicultural India).

### **Management support**

Tata Teleservices, as a part of implementing the vision of extending the Internet to everyone across India, enjoyed enthusiastic management support. With mobile telephony growing rapidly in terms of both subscriber numbers and in its geographic and demographic reach, Tata Teleservices' management had a strong proposition to support. Having the attention and commitment of management is critical for success. Without having the backing of decision-makers and the approval of the strategy, none of the other factors matter. A visionary offer with a well-planned, strategic campaign can be stymied without management onboard from inception all the way through to launch on the market. Tata Teleservices and its management have taken a long-term, relationship-building view in implementing its vision, strategy and in creating partnerships.

## **Tata Teleservices: The way forward**

In the future, Tata Teleservices aims to expand further and reach even more of the Indian population. Making this a reality will involve tackling the challenge of making Opera Mini available on more handsets and indeed on offering more Internet-enabled, low-cost handsets as part of the overall Tata portfolio. Tata and Opera will work together to offer Opera Mini on handsets in the 25 USD price range to fully serve this market. Another aspect of this drive will be introducing marketing and advertising as Opera Mini becomes readily available on more handsets. Tata's strategies to make this offer available to wider audience will include pre-installation on low-end handsets and promoting the services more widely and innovatively. Estimating by trends and forecasts, revenue from the mobile Internet application should grow to eight times in the next three years.

Outside the realm of mobile handsets, Tata also plans to continue its partnership with Opera Software by addressing the rural and mass market of India through, for example, Opera-enabled set-top boxes, fully capitalizing on Opera Software's flexibility to push the Tata vision forward.



# MOBILE INTERNET LIKE NEVER BEFORE

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