

SIMPUTERS FOR SPOT BILLING IN ELECTRICITY METERING

POWER AND EXTENSIBILITY OUT-OF THE-BOX

The advantages of automated meter reading and spot billing are well recognized by the various electricity boards in the country today. Not only does spot billing lead to much greater **revenue-collection efficiency** and better decision systems, it also brings intangibles like **transparency** and better **customer service** to the system.

Though there exist various devices in the market that aid in spot-meter billing, none has become either an industry standard or widely prevalent. The reasons range from limited computing power and lack of customizability to high price and absence of local technical support.

The BEL-PicoPeta Simputer has many features that make it one of the most attractive **platforms** for developing **turnkey spot billing solutions** in the electricity metering industry.

1. It is a **full-featured handheld computer** and its hardware and software can easily **customized** to requirements.
2. With upto 64 MB of RAM and a 206 MHz processor, it is one of the most powerful handheld computers in the world. This **power** ensures that there are no compromises in terms of **performance**.
3. The Simputer has 32 MB of permanent storage space which can hold lakhs of customer records. Moreover, storage space can be extended to 1 GB by used a thumb-sized USB flash stick
4. Its interfaces can be in any **Indian language** (or English), and as such can be used by even people who have no experience with technological devices.
5. The BEL-PicoPeta Simputer works well with mobile handheld **printers**, so that receipts/bills can be given to customers on the spot.
6. It has a built-in **SmartCard** reader/writer making a Simputer both secure, and shareable between many field personnel.
7. It has many modes of **exchanging data with PCs and meters**: USB, Serial, Infrared (Wireless), Bluetooth (Wireless) – the Simputer is future proof!
8. It can also be used to send and receive data over the **Internet**, with the help of a regular phone line and a thumb-sized modem. This eliminates the need for field executives to make repeated trips to the office.
9. While we believe that true quality is never cheap, Simputer-based solutions have a low Total Cost of Ownership (**TCO**).
10. Last but not the least, **local tech support** can be made available though out India, by the public sector giant Bharat Electronics Limited (**BEL**).



Short for *Simple Computer*, the Simputer was co-invented by PicoPeta founders in Bangalore. **PicoPeta** and **Bharat Electronics** have a partnership to manufacture, market and improve the Simputer

SIMPENTER IN THE WORLD'S MEDIA

- Marvel of Indian Technology – **TIME**
- World's most significant IT invention – **New York Times**

TECH SPECS (PARTIAL)

- Intel StrongArm Processor 206 MHz
- 32-64 MB RAM
- 32 MB of permanent storage extensible to 1 GB using external USB Flash
- USB Port (M/S), Serial (RS 232) Port
- Infrared
- External thumb-sized modem
- 3" x 4" display (res: 240 x 320)
- 6-8 hr. battery back-up
- Rechargeable Li-Ion battery
- Linux OS with device drivers
- C, Perl, Tcl/Tk, X-Windows, MySQL
- Compatible with Windows, Excel, Oracle etc.

PRICING

- Rs. 14,000/- for a Simputer (approx.)
- Rs. 6,000/- for 20-column mobile printer (approx.)

USAGE SCENARIO: HOW A FIELD EXECUTIVE WOULD WORK WITH A BEL-PICO PETA SIMPUTER

- When he leaves office, the field executive collects (data transferred from a PC to a Simputer by an officer) addresses and details of all the households he should visit in the day.
- He inserts his **SmartCard** into the Simputer to **authenticate** himself: this provides a high degree of security, as unauthorized persons cannot have access to the data.
- On the field, he can get easily answers to **queries** like “Show me names and addresses of people who have defaulted payments for the last three months.”
- Once he reaches a home and takes a reading, he can quickly enter it on to the Simputer using a **soft key-board**.
- He then prints out a receipt/bill for the home owner, and collects any **money** due.
- Finally, when he is back in office, he puts all the collected data back into a PC/server using a cable, and simple 2-minute process. The data is used for archives, **MIS reports** etc.

SCREENSHOTS: EXAMPLES OF SIMPUTER USE

The BEL-PicoPeta Simputer is **currently being used for spot-meter billing by a Gulbarga Electricity Supply Company Limited (GESCOM)** in Gulbarga. Please see the case-study on pages 3-4 for more details and screenshots.

Below are screenshots from a similar (Water Meter Billing) application:

The image displays four screenshots of the Simputer interface for a water meter billing application:

- Screenshot 1: Name and Area** - A form with dropdown menus for Consumer Name, Status (Billed), Type (Domestic), Location (16th Cross), and Area (Maleshwaram). A 'submit' button is at the bottom.
- Screenshot 2: Maniyon(1556/123)** - Data entry screen for a specific customer. Fields include Date (28/10/2002), Last Reading (9999999), Current Reading (9999999), Consumption (12345678), Due (12345678), Penalty (1234567), and Bill (1234567890). 'Save' and 'Cancel' buttons are present.
- Screenshot 3: Customer Information** - A list of customer details including Id (1556/123), Name (Maniyon), Division (REES), Address (6/16th cross, Maleshwaram, B-hore), RR No (11876), Meter No (22386), Type (Domestic), and Diameter (2 1/2 inches). A 'Bill' button is at the bottom.
- Screenshot 4: ಸುಗ್ಗಿ - ಭೂಮಿ** - A menu for selecting Indian languages. It contains a 2x9 grid of options: 0 (blank), 1 (ಬತ್ತೆ), 2 (ಕವಳಿ), 3 (ಕಬ್ಬು), 4 (ಗೋಧಿ), 5 (ಬಿಡಲ), 6 (ರಾಗಿ), 7 (ಜೋಳ), 8 (ಎಳ್ಳು), 9 (ಶಿಂಗಾ), 10 (ಪೂಟಾಟ), 11 (ಹತ್ತಿ), 12 (ಮಸಾಲೆ), 13 (ರೇಷ್ಮೆ), 14 (ಸಜ್ಜೆ), 15 (ತೊಗರಿ), 16 (ಕುಸುಬಿ), 17 (ಕಡಲೆ), 18 (ಸೂರ್ಯಪಾ), 19 (ಬಾಳೆ). A 'ಹಿಂದೆ' (Back) button is below the grid, and a footer reads 'ಬೆಳೆ ಆಯ್ಕೆಗೆ ಸಹಾಯ' (Help for crop selection).

CASE STUDY: BEL-PICO PETA SIMPUTERS BEING USED IN ELECTRICITY SPOT BILLING

When M/S Bellary Computers won a contract to automate the electricity billing process in Bellary (Karnataka), they turned to the BEL-PicoPeta Simputer. Because they found in the Simputer all the attributes that would help them meet Gulbarga Electricity Supply Company's (GESCOM) brief – bring in efficiency, transparency and quality to the billing process. Bellary Computers' first step was to see how their pre-existing PC-based billing software written in C) could be ported to the Simputer. The rest, as they say, is history!

TECHNICAL PHASE

To their sheer delight, PicoPeta's technical team helped Bellary Computers port their PC-based C program to the Simputer in a matter of a few hours. PicoPeta's engineers even put together a specially-customized keyboard consisting of only the letters and numbers that a meter reader needs to use. A few more hours spent optimizing the code to ensure optimum running speeds on the Simputer, and an electricity spot billing solution was ready to go.

USAGE PHASE

Armed with a small handheld package consisting of a Simputer and an impact printer, tens of meter readers have been on the field in Bellary since April 2003. And the results have been astounding:

- Meter readers leave every morning, with their Simputers reflecting the very latest payment status for 50,000+ customers – as opposed to the old manual system which would not account for bill payment in the last 2-3 days
- On an average, one meter reader can now accurately bill 270 homes in one day, as opposed to the 150 under the manual system – a tribute to the superior usability and power of the Simputer
- Consequently, the billing cycle has come down from 30 days to 15, which has enabled them to collect money faster
- The ultimate proof of the system's success is in the increased demand and revenue - collections have gone up by 30-40% per month on an average, due to the increased efficiency, accuracy, transparency and the tamper-proof nature of the system
- Billing info from the Simputers is fed into a server the same day, and the electricity board has instant access to MIS
- Vitaly, the Simputer is a platform on which more functionality can be built – for downloading data automatically from a meter, for bill payment and collection

ಗುಲ್ಬರ್ಗಾ ವಿದ್ಯುತ್ ಸರಬರಾಜು ಕಂಪನಿ ನಿಯಮಿತ	
ಗು.ವಿ.ಸ.ಸಂ.ವಿ.ಸಂ.ಲಂಚುಡಿಬೀಡಿ	
ವಿದ್ಯುತ್ ಖರ್ಚು	
ಜಾಲ ಸಂಖ್ಯೆ	F104781
ಆರ್.ಆರ್.ನಂ.	52990
ಖಾತೆ	SC22/82
ಜೀಕೆಎ/ಸಂ.ಗ್ರ.	LT2(a)
	0.240 KW
ಏಕೀಕರಣ ಕೋಡ್	SHODIMA BEE
ಸಿದ್ಧಪಡಿಸಿದ ದಿನಾಂಕ	19/7/2003
ಪಾವತಿಸಿ ಕಡೆ ದಿನಾಂಕ	2/8/2003
ಇಂದಿನ ಮಾಹನ	9145
ಹಿಂದಿನ ಮಾಹನ	9080
ಒಟ್ಟು ಏಕೀಕರಣ	65
ಮಾಹನ ಸ್ವೀಕಾರ	1.00
ವಿದ್ಯುತ್ ಶುಲ್ಕಗಳು	
ನಿಗದಿತ ಶುಲ್ಕ	20.00
ವಿದ್ಯುತ್ ಶುಲ್ಕ	157.00
ಇತರೆ ಶುಲ್ಕ	0.00
ಪಾವತಿ	0.00
ಬಡ್ಡಿ	0.00
ಬಿಡುಗಡೆ/ಜಮ	0.00
ತೆರಿಗೆ	8.85
ಒಟ್ಟು ಮೊತ್ತ	Rs. 186.00
ರಸೀದಿ ಸಂಖ್ಯೆ	:
ಜೆಲ್ ಸಂಖ್ಯೆ	:
ಬ್ಯಾಂಕ್ ಕೋಡ್	:
	SBM4

30,000 of these Simputer-printed bills are given out every month in Gulbarga

OVER TO THE CUSTOMER

Mr. T. Sridhar, MD, Bellary Computers has this to say about the BEL-PicoPeta Simputer:

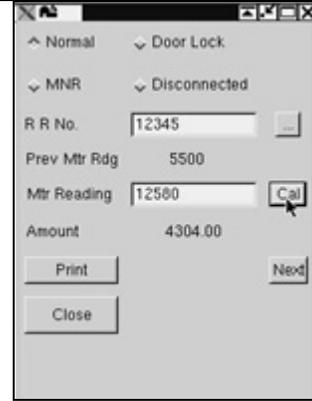


Mr. T. Sridhar, MD Bellary Computers at PicoPeta's office: "The Simputer has helped us achieve accountability, efficiency, transparency and quality."

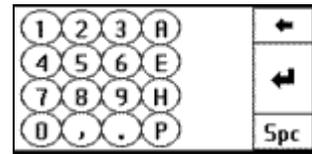
"The Simputer is a platform, not a mere device. Its ease-of-use, power, memory and relatively large screen give us the edge. And I am convinced that it will go from strength-to-strength, given PicoPeta's outstanding engineers.

With the success of our Spot Billing program in Gulbarga, we look forward to taking the Simputer into other areas – like bill payment with a credit-card interface.

I would highly recommend the Simputer to electricity boards nationwide."



Screenshot of the application: the Simputer's screen is large enough for the entire application front-end to be just one page. Of course, the simple front-end masks the rather complex logic running in the back-end.



Customized keyboard for spot billing: consumer numbers have only numbers and a few letters (A, E, H and P), so why have a full keyboard? A small improvement that makes life a lot easier on the field.

LET'S WORK TOGETHER!



The BEL-PicoPeta Simputer is a joint product of:



PicoPeta Simputers wants to work with you to develop a **spot billing solution**, if you represent any of the following.

1. Electricity Boards
2. Electricity Meter Manufacturers
3. Service Providers to Electricity Boards
4. Software Developers for Electricity Boards

Please get in touch with

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