

## CDL empowers high-function mobile computing device with DB2 Everyplace.

### Overview

#### ■ Application

Highly secure pervasive computing infrastructure for security, government, travel, shipping and other applications

#### ■ Business Benefits

For CDL: significant business growth potential from tapping into vertical markets

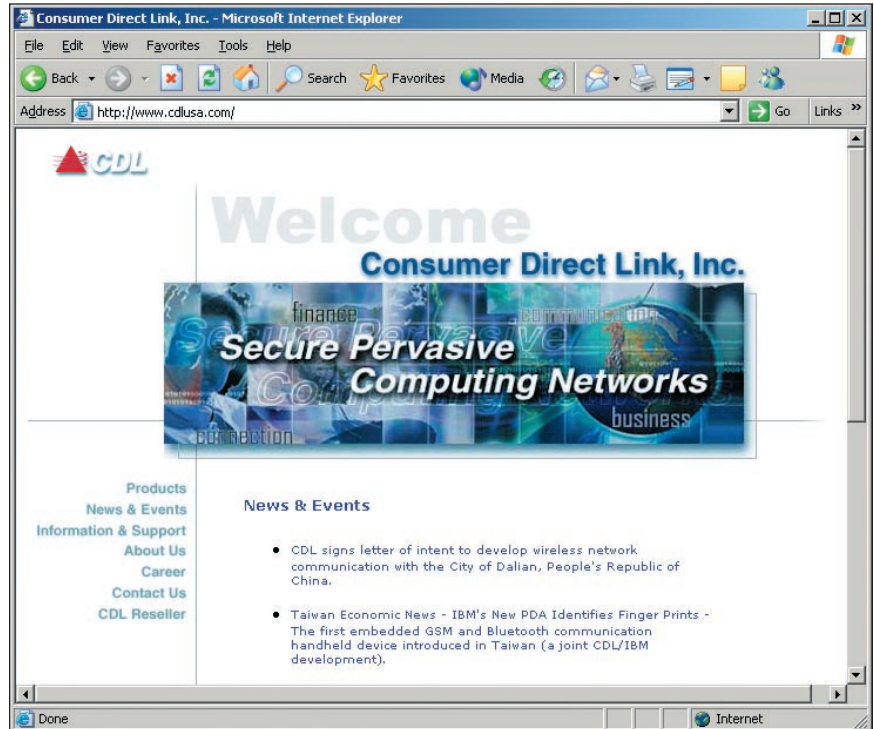
For CDL customers: increased operational efficiency and employee productivity; enhanced security

#### ■ Software

IBM DB2® Everyplace™ for Linux®; IBM DB2 Universal Database™ Enterprise Edition for Linux; IBM WebSphere® Application Server Advanced Edition, Version 4.0

#### ■ Hardware

IBM @server pSeries™; IBM @server xSeries™



CDL's Secure Pervasive Computing Networks (sPCN) cover the complete scope of a product line, from consumer touchpoint devices to backend data centers.

At Hong Kong Air Cargo Terminal, a quick scan of employees' fingerprints is opening the door to heightened security and enhanced productivity. When workers arrive for their shifts, they place their fingertips on a handheld scanning device to learn their job assignments and manage critical tracking information for the one million cargo items they process every day.

*“DB2 Everyplace offers the most sophisticated database functionality with a very small memory footprint. It’s... perfect for mobile computing.”*

*—Dr. Cuong Do, Founder, CEO and CTO, Consumer Direct Link*



Paron MPC, based on DB2 Everyplace, brings the rich functionality of desktop computing to mobile users.

The largest air cargo terminal in the world at 600,000 square feet, the Hong Kong facility is meeting its security needs without compromising productivity with a sophisticated pervasive computing solution from Irvine, California-based Consumer Direct Link (CDL). Founded in 2000, CDL is a pioneer of pervasive computing networks and developed the cargo terminal's solution with its Paron Multipurpose PC (MPC) personal digital assistant (PDA).

Packed with functionality, Paron MPC requires a robust mobile database in order to support an array of custom e-business applications that the company's clients want. For CDL, the choice was simple: IBM DB2 Everyplace for Linux.

"DB2 Everyplace offers the most sophisticated database functionality with a very small memory footprint," says Dr. Cuong Do, founder, CEO and CTO of CDL. "It's easy to use, provides simple and secure connection to backend data sources, and is just perfect for mobile computing."

*"DB2 complements our mobile solution with the reliable, high-performance data management infrastructure that our customers demand. And WebSphere Application Server provides a powerful platform for processing our business logic and supporting the security and connectivity that are integral to our offering."*

*—Dr. Cuong Do*

### **Sophisticated functionality in a small package**

IBM and CDL, an IBM Business Partner, have teamed to customize and market the Paron MPC solution to vertical markets including government, travel, retail, telecommunications and the financial industry. These vertical businesses can then offer the customized handheld devices to their customers.

Powered by DB2 Everyplace, Paron MPC lets mobile workers interact with enterprise data wherever they are. It essentially brings desktop computing functionality to a handheld device, so users can check e-mail, surf the Web and connect to enterprise applications.

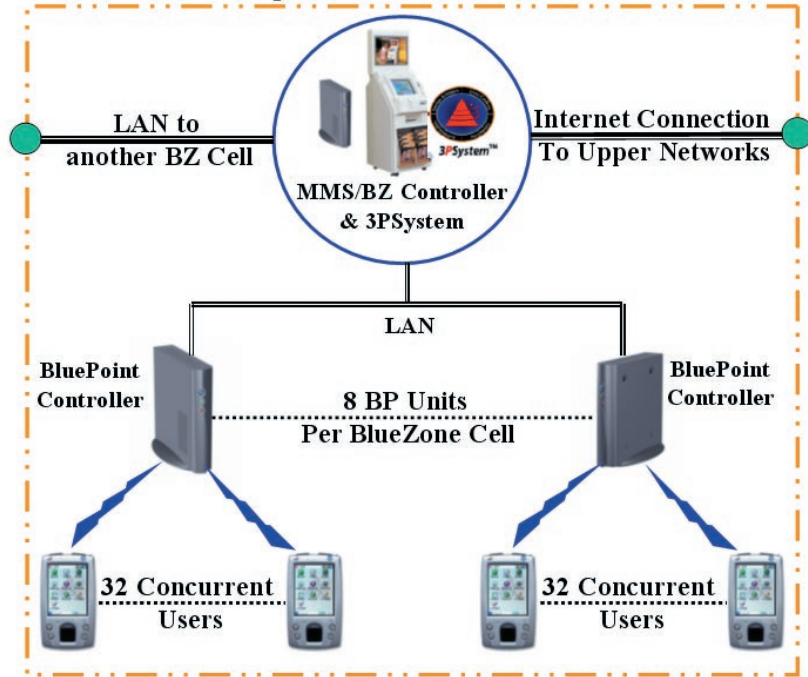
But its added value lies in a range of other features. The device includes a chip-based encryption system to assure the highest level of security, as well as cellular communication functionality, Bluetooth voice and data networking and a biometric fingerprint sensor for local and remote user authentication. With the synchronization capabilities of DB2 Everyplace, Paron MPC users can update enterprise applications with new data either immediately after a transaction or later.

Paron MPC runs on the Linux operating system, which provides reliability and stability as well as support for rapid application development. Because CDL wanted Paron MPC to provide a secure link to the back-end, the company chose to develop the backend infrastructure with IBM DB2 Universal Database Enterprise Edition for Linux, Version 7.3 and IBM WebSphere Application Server Advanced Edition, Version 4.0.

"DB2 complements our mobile solution with the reliable, high-performance data management infrastructure that our customers demand," says Do. "And WebSphere Application Server provides a powerful platform for processing our business logic and supporting the security and connectivity that are integral to our offering."

For the hardware platform, customers can choose either IBM @server xSeries running Linux or IBM @server pSeries running IBM AIX®. "IBM @server systems support our solution with scalability and reliability," says Do. "As for Linux, it provides the quality without exorbitant cost, and we're impressed with IBM's unparalleled commitment to it. That helped make IBM a natural choice to back our Linux-based device."

### 800 Sq. Meters BlueZone Cell



*The BlueZone is a secured Bluetooth wireless access area providing high-speed, wireless connections between consumer touchpoints, such as Paron MPC, and enterprises.*

#### Bringing value to many industries

After a successful pilot, Hong Kong Air Cargo Terminal is now planning for full deployment of the CDL and IBM solution. The cargo terminal's use of Paron MPC exemplifies how the mobile device, when combined with IBM e-business technology, can help an organization streamline its processes.

When an employee logs on to the cargo terminal's secure network, the MPC device is verified by CDL's device authentication server application, powered by WebSphere Application Server. To verify the user, the MPC device reads the user's

fingerprint and sends that information to a second authentication application, also powered by WebSphere Application Server. The application verifies the user's fingerprint against the biometric data stored in DB2 and transmits encrypted authentication information over a wireless network to the Paron MPC to grant appropriate access to shipping information.

DB2 Everyplace Sync Server, which operates on a pSeries server running Linux, is the mechanism that enables bi-directional synchronization between Paron MPC and DB2 on the backend. At the cargo terminal, authorized employees who arrive at their designated dock simply place their fingertip on the device to retrieve airway bill information that's stored in DB2. As they inspect each package and move the items for shipping, this updated information is entered on the device and synchronized with DB2 on the backend. Paron MPC relies upon the transcoding functionality in WebSphere Application Server to format information dynamically to display on the device.

Adds Do, "Because DB2 and WebSphere Application Server support open standards and, thus, integrate easily and smoothly with so many other technologies, CDL customers can incorporate a Paron MPC solution into their particular environment without excessive costs or time." Once WebSphere Application Server Version 5.0 is released, CDL plans to migrate to it.

### **Gaining security without forfeiting convenience**

Next in store for CDL is a potential Paron MPC project with the Hong Kong government. There is a need for devices equipped with a smart card reader and fingerprint scanner that will enable agents to scan residents' government-issued identification cards to assess their status. Several law enforcement and government agencies in the U.S. have also expressed interest in the system.

As an IBM Business Partner, CDL is taking advantage of access to knowledgeable scientists and researchers at IBM who can help the company further enhance its solution. For example, CDL is collaborating with IBM Almaden Research Center in San Jose, California, to create additional biometrics authentication support for Paron MPC, including face and iris recognition.

Further extending the functionality of the solution, CDL plans to incorporate into Paron MPC the ability for fingerprint scans to trigger authorization to enter secured facilities.

"Together, CDL and IBM are helping organizations to meet their security needs without sacrificing convenience or efficiency," says Do. "In our current business climate, these considerations are first and foremost for many companies."

### **For more information**

Please contact your IBM marketing representative, IBM Business Partner or IBM Direct at: 1 800 IBM-CALL.

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For more information about Consumer Direct Link, visit: [www.cdlusa.com](http://www.cdlusa.com)



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