



Why MCL-Client

Visualize...multimodal mobile worker applications

Realize...MCL-Client





Why MCL-Client

Organizations throughout the world choose MCL-Collection for its flexibility, modular architecture, cross-platform compatibilities, and multimodal applications. MCL-Client is the component of MCL-Collection that makes these benefits possible. It provides device level control of your mobile computers to:

- ❖ Control the unique features of each mobile computer / handheld terminal.
- ❖ Run applications with multimodal user interfaces
- ❖ Provide voice recognition
- ❖ Allow different modes of communication
- ❖ Support cross-platform compatibility and application portability

MCL-Client

The MCL-Collection has a thick-client / server architecture. MCL-Client is the component of MCL-Collection that runs on the mobile computer and executes the MCL application you create using MCL-Designer. As a result, your mobile worker applications run on the mobile computer and not on the host.

MCL-Client puts the application intelligence on the mobile computer allowing the device to ‘think’ for itself. Worker productivity is maximized as mobile workers use the data capture technology that is most convenient—be it barcode scanning or voice recognition—and go about their tasks without regard for host or network status.

Features and Benefits

Cross platform compatibility. MCL-Client abstracts the MCL application from the physical computer and operating system. This approach makes cross-platform compatibility and application portability possible and future-proofs your applications.

Multimodal access. MCL defines multimodal access as:

- ❖ The combination of multiple data capture technologies in one mobile worker application

MCL-Client gives your applications the ability to control whether a user input allows barcode scanning, touch screen, keyboard, voice recognition, imaging, or RFID only, or any combination of these inputs, or all of these inputs. Having the intelligence on the mobile computer gives you direct control of the various capabilities of the mobile computer.

This device level control and flexibility lets you implement true multimodal mobile worker applications.

Input control. MCL-Client’s device control lets you define valid user input even more specifically. For example, in retail warehouse environments, individual items in inventory usually have UPC or EAN barcodes on them. Cases and shipping cartons



usually have Code 128 barcodes on them. The locations where the items are stored are usually labeled with Code 39 barcodes. MCL-Client gives your application the control to allow only UPC, EAN and Code 128 barcodes for item inputs, and only Code 39 barcodes for location inputs. MCL-Client will then not allow your mobile workers to accidentally scan an item as a location input and vice versa.

Voice recognition¹. Having the intelligence on the mobile computer also makes voice-enabled and voice-directed mobile worker applications a reality. In order for voice input and output to be practical and increase worker productivity, the speech-to-text and text-to-speech translations must be extremely rapid. Since MCL-Client performs the voice recognition right on the mobile computer, voice translations are instantaneous, giving the mobile workers immediate feedback on their voice operations. This is also very important as users generally have a low tolerance for delays in voice responsiveness.

Communications. MCL-Collection's thick-client approach also gives very fast network response times. By running the mobile worker application on the mobile computer, MCL-Client minimizes the communications flow between your host and the mobile computer. This minimizes network traffic and optimizes network bandwidth usage since only real transaction data, validations, and lookup tables are normally transmitted. This is particularly important in WWAN applications where costs escalate with bandwidth usage.

MCL-Collection allows you to integrate a broad range of communications mediums. MCL-Client gives you the flexibility to deploy these mediums in many different modes. Since the intelligence is on the mobile computer you can design your mobile worker applications to operate in a continuously connected, casually connected, or occasionally connected mode; and in a real-time or batch mode according to your business needs. Wireless MCL applications may send transactions immediately as they occur, or store data for transmission at a later time.

Peripheral support. MCL-Client handles the interface to peripherals connected to the mobile computer. Examples include portable printers and weight scales.

New hardware and system software. As new hardware, such as Bluetooth, WLAN, WWAN, barcode scanners, imagers, and voice capable audio circuitry, are released, MCL-Client is updated to support the hardware upgrades, new capabilities and new technologies. MCL-Client is also continually being updated to handle new operating systems.

Charts 1, 2, and 3 show MCL's continuity timelines for integrating evolving mobile computing operating systems, wireless infrastructures, and data capture technologies into MCL-Client. These charts reflect the on-going effort and commitment to keep MCL-Client current with regard to upgrades and new technologies.

To benefit from new hardware or hardware upgrades, all you need to do is install the latest MCL-Client on your mobile computers.

¹ MCL-Client with Vocollect Voice™



By contrast, consider the effort to interface to new hardware, hardware upgrade or new operating system if you develop your application in a C-language, VB, or Java. It becomes your responsibility to maintain and support hardware, system software, and driver compatibility. It is also your responsibility to re-qualify your application with any new hardware and system software/drivers.

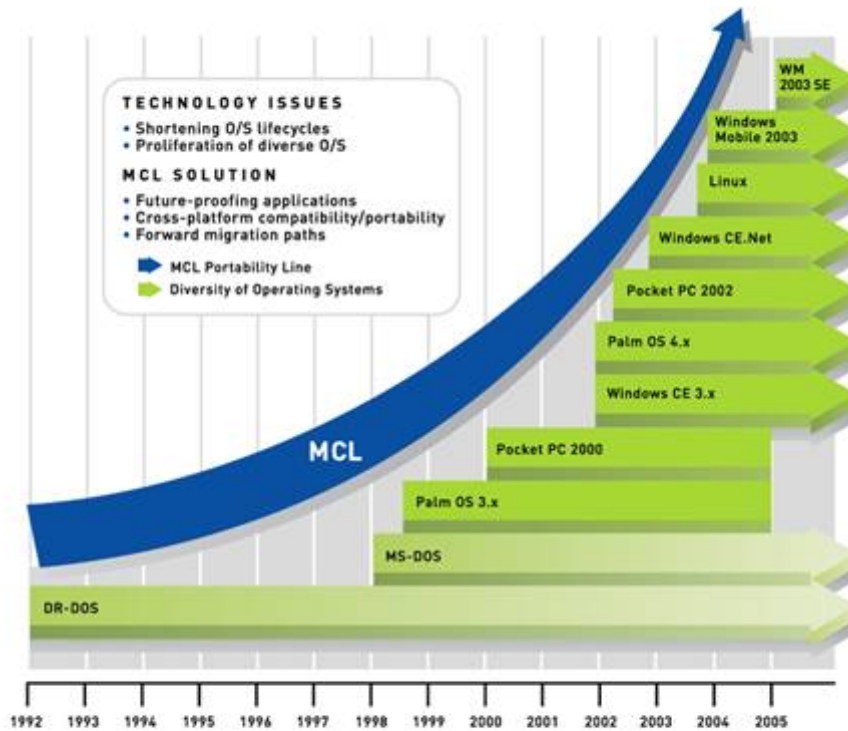


CHART 1:
MCL Technologies continuity timeline for evolving operating systems on portable terminals and mobile computers

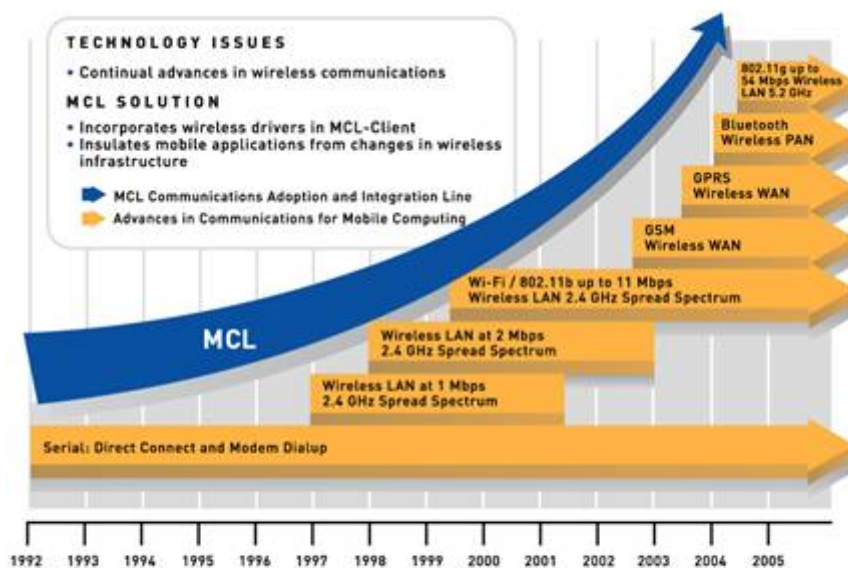


CHART 2:
MCL Technologies continuity timeline for adoption of communications mediums for mobile computing

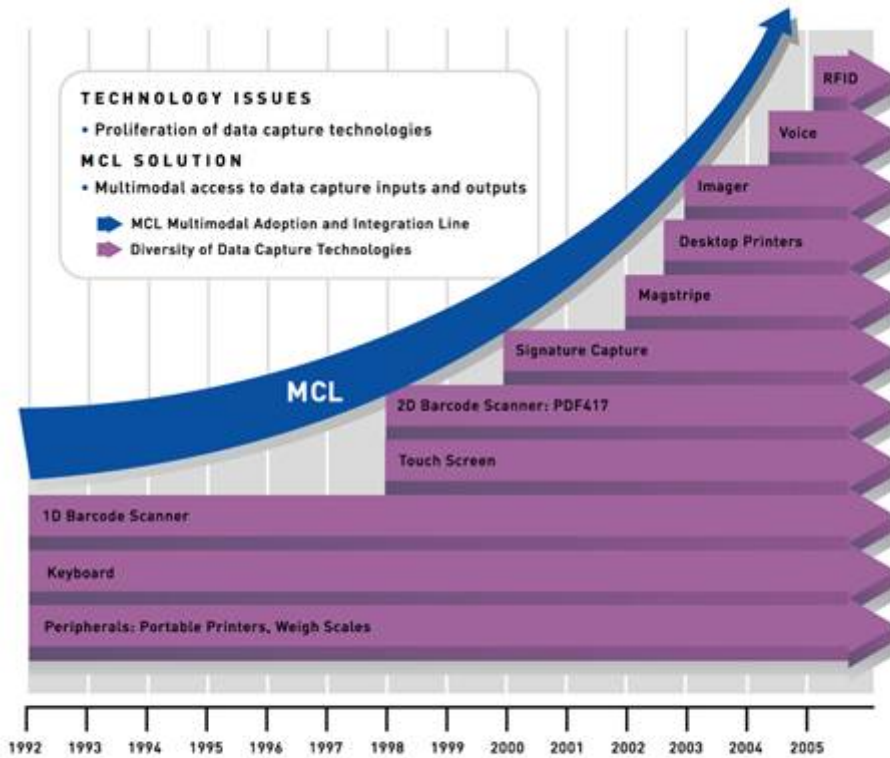


CHART 3:
MCL Technologies continuity timeline for data capture technologies on portable terminals and mobile computers

Application maintenance. MCL continually updates the MCL-Clients to keep them current with the latest mobile computer system software and hardware upgrades. MCL abstracts your application from the underlying system software and device hardware, so you don't have to worry about it. Keeping your MCL-Client current gives you the latest updates for your mobile computers without you ever having to maintain a single line of code!



Top Reasons to Use MCL-Collection

- ❖ Core competency in development tools for data capture, mobile workforce applications development, deployment, and management.
- ❖ High productivity development environment to create applications that integrate data capture technologies, wireless communications, and mobile computing.
- ❖ Development environment to create multimodal applications combining technologies such as barcode scanners, touch screens, keyboards, signature capture, imagers, radio frequency identification, displays, printers, and voice recognition.
- ❖ Flexible, modular deployment architecture:
 - Building blocks to customize host access, network size, and communications modes.
 - Easy concurrent access to host applications, ODBC compliant databases, warehouse management systems (WMS), and enterprise resource planning (ERP) systems.
 - Scalable deployments from 1 to 62,500 concurrent mobile terminals per server.
 - Efficient for small system deployments.
 - Powerful and optimized for large distributed system deployments.
 - Real-time, on-demand, or batch data communications.
 - Seamless, transparent transitions back and forth between these modes of communication.
 - Continuously, casually, or occasionally connected users.
 - Seamless, transparent transitions back and forth between states of connection.
- ❖ Framework so you can focus on functional business issues, and not on implementation issues and constantly changing low-level technologies such as operating systems, wireless infrastructures, and data capture methods.
- ❖ A focus on minimizing your total cost of application ownership:
 - High-productivity development environment.
 - Low on-going maintenance effort.
 - Modular, flexible architecture.
 - Easy application deployment and management.
 - Cross-platform compatibilities.
 - Forward migration paths.
 - Future-proofed applications.
 - Investment preservation.
- ❖ Benefits to your organization from data capture, mobile worker applications created using MCL-Collection:
 - A mobilized workforce.
 - Workforce productivity improvements.
 - Cost reductions.
 - Competitive advantages



❖ **MCL-Designer**

High-productivity, horizontal development environment to create enterprise-ready, multimodal, data capture applications.

❖ **MCL-Link**

Batch/ Point-to-Point, Serial:
▪ Direct Connect RS-232
▪ Modem

❖ **MCL-Net**

Real-Time/ Concurrent Users:
Wireless
▪ WLAN: WiFi, 802.11
▪ WWAN: GSM, GPRS,
Wired Ethernet

❖ **MCL-Bridges**

▪ Host Applications
▪ Back Office Applications
▪ ERP: SAP
▪ Warehouse Management (WMS)
▪ ODBC: Oracle, Access, FoxPro,
DB2, Excel, Sybase, SQL

❖ **MCL-Collection with Vocollect Voice™**

Voice Recognition, Voice Synthesis

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About MCL Technologies

MCL Technologies is a recognized leader in delivering high-productivity software development tools for mobile workforce application development, deployment, and management. Its enterprise-ready, standards-based software suite, MCL-Collection, seamlessly integrates the latest technologies with mobile computer, multi-manufacturer, cross-platform compatibility. Through the integration of mobile computing, wireless infrastructures, and data capture technologies like barcode scanners, radio frequency identification, and voice recognition, MCL-Collection helps organizations deploy mission critical and on-demand multimodal applications to improve workforce productivity, reduce costs, and achieve competitive advantage. Since 1992, MCL-Collection has been implemented in thousands of locations around the world by large and small organizations with sectors of activities as varied as retail, banking, healthcare, government, transportation and logistics, warehousing, field service, and manufacturing. More information is available at <http://www.mcl-collection.com>.

