



Why MCL-Bridge *for SAP*

Visualize...mobilized SAP[®] R/3[®]

Realize...MCL-Bridge for SAP



Why MCL-Bridge *for SAP*

Does SAP® R/3® drive your “shop-floor” operations—retail, warehouse, distribution, manufacturing, or transportation and logistics?

Do you want to improve your shop-floor worker productivity?

Do you want to improve your shop-floor related SAP data integrity?

Do you want to control your mobile worker application interface to SAP?

If you answered “yes” to these questions, you need MCL-Collection and MCL-Bridge *for SAP*. These high-productivity, fully integrated software products are essential to mobilizing your workers and interfacing their activities right from the shop-floor, point of activity, directly into SAP.

SAP for Mobile Workers

MCL-Bridge *for SAP* delivers SAP to mobile computers allowing you to process any SAP R/3 transaction for any SAP solution:

- ❖ Financials
- ❖ Human Resources
- ❖ Customer Relationship Management
- ❖ Supplier Relationship Management
- ❖ Product Lifecycle Management
- ❖ Supply Chain Management
- ❖ Business Intelligence

MCL-Bridge *for SAP* is extremely flexible. It can present a mobile user interface for any operation that uses a standard SAP Interface protocol:

- ❖ Remote Function Call (RFC)
- ❖ Intermediate Document (IDOC)
- ❖ Business Application Programming Interface (BAPI)

SAP certified, MCL-Bridge *for SAP* “bridges” the gap between the practical requirements of your operating environment and the need to maintain the integrity of your SAP enterprise system.



How Does It Work?

MCL-Bridge *for SAP* is a component of the MCL-Collection. Consequently, in addition to its own capabilities, it brings all the benefits of MCL-Collection to your SAP mobile workforce deployment.

MCL-Bridge *for SAP* consists of two main parts:

- ❖ Intuitive, graphical R/3 functional add-on to MCL-Designer to:
 - Develop scripts to customize MCL-Bridge *for SAP* for your mobile SAP environment.
 - Create transaction handling rules for MCL-Bridge *for SAP*.
 - Develop ERP functionality and rules for your MCL mobile worker applications.
- ❖ Server component used in your live operational deployment to:
 - Execute the rules and scripts you create using MCL-Designer.
 - Handle, route, and guarantee delivery of messages.
 - Package SAP transactions into mobile computer data transactions and vice versa.

Unlike middleware, MCL-Bridge *for SAP* does not modify the contents of your transactions. Its function can rather be compared to that of a postmaster—enveloping, handling, routing, and guaranteeing delivery of your transactions to and from mobile computers and your SAP system.

MCL-Bridge *for SAP* mobilizes your SAP shop-floor workers—no middleware required!

Highlighted Features

MCL-Bridge *for SAP* includes many features to maximize worker productivity and SAP data integrity:

- ❖ Tailored user interfaces.
- ❖ Local validations.
- ❖ Support for all MCL enabled mobile computers.
- ❖ Multimodal approach.
- ❖ Modular architecture.
- ❖ Multiple SAP transactions from a single shop-floor entry.
- ❖ Multiple systems updates from a single shop-floor entry.
- ❖ Operator or system driven operations.



Tailored User Interfaces

Shop-floor transaction entries do not usually require the fullness of SAP functionality as shown on standard SAP screens. Therefore, to focus your mobile workers' efforts on the essentials, MCL-Bridge *for SAP* lets you create mobile user interfaces that display just the fields—and only those fields—required for a given task. Furthermore, MCL-Bridge *for SAP* lets you present these fields in a sequence that reflects the logical workflow for the operation at hand including dynamically reacting to specific data entered by the operator.

Maximize mobile worker productivity with tailored mobile user interfaces supporting interactive exchanges between the worker and your SAP system.

Local Validations

MCL-Bridge *for SAP* lets you create and build rules that are executed and validated locally on the mobile computer. This is very useful to handle operational situations not addressed by SAP.

For example, consider your warehouse receiving operations and the arrival of a pallet with a barcode representing the SAP PO number. With MCL-Bridge *for SAP*, the entire receiving operation can proceed as follows:

- ❖ A mobile worker scans the PO number.
- ❖ The mobile application sends the PO number to SAP, and requests the PO line item and quantity details from SAP.
- ❖ SAP responds with the requested information.
- ❖ The mobile application stores the PO information on the mobile computer.
- ❖ The mobile worker scans the items on the pallet in any convenient order.
- ❖ The mobile application validates each scanned item on the pallet against the PO information that was downloaded from SAP.
- ❖ When all of the pallet items have been scanned and validated, the mobile application sends the scanned pallet data to SAP thus processing the PO and concluding the receiving operation.

Local validations take your SAP system off the critical path for operations.

Your operations can follow a natural work flow around the movement of physical goods rather than being restricted to SAP's view of the data.

Mobile Computer Support

MCL-Collection, and therefore MCL-Bridge *for SAP*, is cross-manufacturer, cross-platform compatible. Mix and match mobile computer populations and form factors to maximize worker productivity.

MCL-Bridge *for SAP* provides the same interface to SAP regardless of the mobile computer features and form factor.



Multimodal Approach

MCL-Collection's multimodal approach means that you can combine multiple data capture technologies in one mobile worker application. This means that with MCL-Bridge *for SAP* you can integrate diverse sources of data input and output into your mobile SAP environment. The source of the data is transparent to MCL-Bridge *for SAP* and your SAP system.

❖ Inputs

- Speech recognition
- Radio frequency identification (RFID)
- Image capture
- 1D Barcode scanning
- 2D Barcode scanning
- Signature capture
- Magstripe
- Pen (touch screen)
- Keyboard
- Weigh scale
- Portable printers
- Desktop printers
- Intelligent sensors
- PLCs

❖ Outputs

- Speech synthesis
- RFID
- Display
- Portable printers
- Desktop printers
- Intelligent sensors
- PLCs

Use MCL-Bridge *for SAP* to create an unbroken link between SAP and shop-floor equipment, such as scales, intelligent sensors, PLCs, and others.

Mix and match technologies to maximize worker productivity while maintaining full conformity to SAP standards.

Modular Deployment Architecture

MCL-Collection and MCL-Bridge *for SAP* have a modular, layered architecture allowing you to interface into your SAP environment with many modes of communication:

- ❖ Real-time or batch communications.
- ❖ Continuously or casually connected communications.
- ❖ LAN, WLAN, WWAN or Modem communications.

MCL-Collection's and MCL-Bridge *for SAP*'s deployment architecture is scalable and flexible to adapt to your changing requirements as your business evolves.



Multiple SAP Transactions from a Single Shop-floor Entry

Use MCL-Bridge *for SAP* to create and build rules to expand a single mobile worker transaction into multiple SAP transactions to progress a business object through all the necessary related SAP confirmation points to appropriate transaction conclusion.

MCL-Bridge *for SAP*'s controlled propagation of a single transaction ensures your complete SAP data integrity.

Multiple Systems Updates from a Single Shop-floor Entry

MCL-Collection's architecture is a modular, layered approach. This means you can post a single shop-floor transaction to multiple systems—such as to SAP, Oracle, and a WMS—simultaneously.

For example, an SAP generated task can cause your mobile worker application to query your Oracle database. The mobile worker application can then update both your SAP and your Oracle systems with the resulting transaction.

Automatic posting of a single transaction to multiple systems ensures system coherency and data integrity across your entire enterprise.

Operator or System Driven Operations

Most SAP environments are system-driven environments. This means that SAP typically has the responsibility of assigning mobile worker tasks. However, occasionally, events requiring immediate operator action erupt on the shop-floor. MCL-Bridge *for SAP*'s support of operator-driven operations allows you to handle these situations easily.

Consider the case where a customer wants an item immediately; the item is not available in a retail area but is found in a storage location. A sales representative initiates an immediate stock move to transfer the item from the storage location to the retail area. From one simple stock movement request on the mobile computer, MCL-Bridge *for SAP* can automatically generate, and send to SAP, the Stock Transfer and Transfer Orders to enable the movement.

MCL-Bridge *for SAP* gives you the best of both worlds—operations flexibility while still maintaining SAP data integrity.



Benefits of MCL-Bridge for SAP

- ❖ SAP Mobility
 - SAP functionality can efficiently go where the business activity goes.
 - Tailored SAP mobile user interfaces maximize mobile worker productivity.
- ❖ High Productivity Environment
 - Ability to quickly and easily create, integrate, deploy, and manage SAP mobile worker applications.
 - A controlled, structured, certified interface into your SAP system.
- ❖ Modular Architecture
 - Flexibility allows your SAP deployment to evolve over time to meet your changing business needs.
 - Minimizes your total cost of ownership.
- ❖ Cross-platform compatibilities
 - Maximizes worker productivity. Assign each worker with a terminal form factor most suitable to that worker's tasks.
- ❖ Flexible, tailored transaction delivery to suit your SAP environment.
- ❖ Flexibility to adapt your SAP operations to your work flow.
- ❖ Fully SAP Compliant integration.
- ❖ Data integrity within SAP and across your other enterprise systems.

MCL-Bridge for SAP allows you to quickly create and deploy robust wireless mobile worker applications that interface your “shop-floor” operations directly into your SAP R/3.

Certification

SAP® Certified
Integration with SAP NetWeaver®

MCL-Bridge is an SAP certified interface for SAP R/3:

CA-ADC Advanced Data Collection (includes MM-MOB and WM-LSR).

This certificate confirms the existence of product functionality in accordance with SAP's Certification procedure.

The certification test is documented in report: 1208/01-2001/wdf from June 01, 2001.



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.
 - Multimodal implementation of data capture technologies.
 - 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