

## Standard Middleware Interface Integrates Back-Office and Point-of-Sale Systems

A leading manufacturer of sophisticated point-of-sale (POS) systems wanted a standardized way to interface the reporting functionality of its Windows-based POS system to a ReMACS for Windows back office system. A preeminent chain of French bakeries and cafés needed the functionality to integrate the two complementary systems.

PowerVision Corporation, using a specification from Radiant Hospitality Systems, the manufacturer of ReMACS, developed a solution using an ActiveX in-process server. The resulting automation server encapsulates the intricate functionality needed for extracting complex reporting data from the POS relational database management system (RDBMS) and presenting it to ReMACS in a simple form.

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### An Active Interface is Required

Customers who purchase this leading manufacturer's POS system find a highly integrated, turnkey platform that employs Sybase SQL Anywhere for its back-end RDBMS. The system is highly configurable for most types of full service restaurants, whether a tavern, concept bistro or a four-star restaurant.

The POS system contains advanced features for generating various reporting data on sales and labor. The issue to address was the communication between the ReMACS back office system and the POS system. Radiant had previously addressed the broader question of facilitating the flow of data between their ReMACS platform and *any* vendor's POS system by developing a specification based on Microsoft's component object model (COM). This specification, which was inspired by Microsoft's ActiveStore initiative, promoted the contemporary notion of a standardized interface to ReMACS that any POS could employ without resorting to an expensive, tailored solution for each specific vendor.

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#### **Business Area:**

- Retail Systems Automation

#### **Key Technologies:**

- Visual Basic
- ActiveX / COM
- Sybase SQL Anywhere
- DDE

#### **PowerVision's Role:**

- Design
- Implementation

PowerVision was selected to develop an implementation of the interface to the POS. This middleware application had to be easily configurable and completely shield the user from all details related to database connectivity, query generation and recordset management. An additional goal was the capability to log various internal activities within the component independently of the calling application.

## PowerVision Solution— Standard Middleware Interface Integrates Back-Office and Point-of-Sale Systems

### Building a Robust Solution

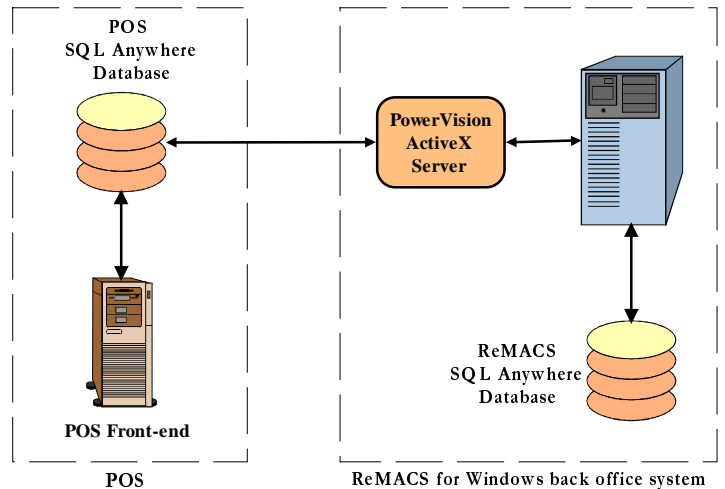
PowerVision designed the system using an ActiveX in-process server as a middleware component between the POS database and the ReMACS system, which acts as the calling application. The server is written in Visual Basic and provides a set of six object methods that can be invoked to extract a variety of reporting data from the POS database. The server's call interface is language-independent and can be exercised by any application written to take advantage of the COM interface standard.

To further promote functional modularity, queries against the POS database are facilitated through SQL stored procedures which are in turn called by the ActiveX server. Each method employs a specific stored procedure located in the POS database to build a result set based on simple parameters first passed to the ActiveX component by the ReMACS calling

application, and then passed to the stored procedure via ODBC. Once generated, the user can move about the result set by subsequent method calls to the server. All database and report complexity is thus hidden from the user, who is only interested in the actual data.

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An additional feature allows the server to be monitored by a client application via dynamic data exchange (DDE). The client may be used to monitor all data moving in and out of the server and to furnish time benchmarks for overall method turnaround and stored procedure execution. It is essentially a "window" into the middleware and completely independent of the calling application.



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