



CBI Technology Overview

CBI offers the only Internet-ready-like business application on the market today. The power of CBI results from its internal design to implement critical business concepts and processes, to users. From its inception, CBI development based on Microsoft.NET™ architecture, supports the powerful infrastructure and networking services available within the Microsoft Windows® application platform. CBI delivers a solution developed specifically for the industry leading Microsoft Windows® platform that not only runs on, but also harnesses, its power. The .NET™ Framework is an integral Windows® component that supports building and running the next generation of applications and XML Web services.

CBI and the Microsoft® Architecture

The CBI application involves several layers that emphasize the logical distribution of the application to divide the processing across multiple computers over a network, unlike older FAT client/server models. ActiveX® Data Objects (ADO) enables the CBI client to access and manipulate data from the database server through an ActiveX® provider. The benefits are high speed, low memory overhead, and a small disk footprint. The CBI application components are comprised of web presentation, web server (IIS), application server, database with triggers, and SQL procedures. The key .NET™ CBI foundation products are:

- I **Windows 2000/2003 Server™**: Windows Server™ provides the integrated Web and application development services, scalability, flexibility, and security services to allow organizations to extend their business to the Internet. With Windows 2000 Server™, businesses can securely connect with their customers, partners, and employees - wherever Internet access is available. Internet Explorer® is a feature-rich platform for web-based applications. Businesses can use the Internet infrastructure to offer expanded and innovative applications, rich content, and secure access to information, products, and services.
- I **Microsoft® SQLServer 2000**: SQLServer 2000 is a powerful tool for turning information into opportunity. Industry-leading support for XML, enhanced tools for system management and tuning, and exceptional scalability and reliability make SQLServer 2000 the best choice for the agile enterprise. This is the logical layer of a distributed system that represents a computer running the SQLServer database; at the heart of which is a collection of business rules and operations that perform business functions. CBI does much of its work at the database level with over two hundred SQL database Triggers and Stored Procedures. By splitting the business logic component out of the business objects, we have provided flexibility and scalability for CBI deployment.
- I **SQLServer 2000 Data Transformation Services (DTS)**: CBI makes extensive use of the DTS and SQL scripts to automate the import from disparate Host Systems data sources and exports to single or multiple destinations. DTS automates data transformation by supporting the import or transformation of data automatically on a regularly scheduled basis.
- I **Microsoft® SQLServer 2000 Reporting Services**: CBI includes integrated reporting capabilities utilizing the newly released SQLServer 2000 Reporting Services. SQLServer Reporting Services is a comprehensive, server-based solution that enables the creation, management, and delivery of both traditional, paper-oriented reports and

interactive, web-based reports. SQLServer Reporting Services supports the full reporting life cycle, including:

- i **Report Authoring.** Report developers can create reports to be published to the Report Server using Microsoft or third-party design tools that use Report Definition Language (RDL), an XML-based industry standard used to define reports.
- i **Report Management.** Report definitions, folders, and resources are published and managed as a web service. Managed reports can be executed either on demand, or on a specified schedule, and are cached for consistency and performance.
- i **Report Delivery.** SQLServer Reporting Services supports both on-demand (pull) reports in the desired user viewing format, and event-based (push) delivery of reports.

CBI extends the power of the existing e-mail delivery component by including RES Software .NET developed Reporting Service extensions for fax and enhanced print service delivery.

- i **Microsoft® Host Integration Server:** Host Integration Server 2000 enables companies to respond quickly to rapidly evolving business and technology demands while preserving their investments in existing host technology. Host Integration Server 2000 includes a comprehensive set of integration components for connecting host-based data and transactions with new applications, allowing companies to design flexible solutions that meet their integration challenges.

CBI Data Integration Services

The SQLServer DTS feature makes it easy to extract, transform, and load heterogeneous data using OLE DB, Open Database Connectivity (ODBC), or text-only files into the CBI database and export CBI data to any supported OLE DB database or multidimensional store. The Microsoft .NET™ platform breaks new ground in terms of using Internet standards such as XML to link systems together both within and outside of the enterprise.

The CBI Data Integration Services developed using this architecture readily supports information integration to disparate products, whether in-house legacy or more modern commercial software packages. Integration support is via data (business information) exchange, eliminating the need for most actual software program modifications.

The CBI deliverable includes all import tables, processing routines, and export tables in support of the integration tasks, as follows:

- i **CBI Master Table Build and Maintenance.** Import updates to master tables process in a net-change mode, identifying and updating only records that have changed. CBI also provides complete program maintenance functions for all master table data, which in turn can create export tables via MSSQL Database triggers to update enterprise software.
- i **Core Bank Creation and Maintenance.** This processor imports legacy Core Bank data into CBI, based on the master table processing rules controlling the valuation method, billing rules, expiration dates, and return application processing.
- i **Activity Based Data.** Activity based data results from business transactions, including billings, returns, credits/debits, and inventory movements. CBI supports enterprise system data synchronization with multiple import processors and export advisory tables.
 1. **Invoice Processor.** This import processor automatically creates a core bank record upon receipt of an Accounts Receivable export file containing invoices or returned goods credit authorizations for remanufactured products. They may include everything sold, (whereby CBI parses and then just processes shipments of remanufactured items) , or filtered to contain only remanufactured items. In either case, the core bank logic deduces the right core and creates appropriate core bank records with the CBI business rules engine.
 2. **AR Returns Processing.** The CBI returns processing export table contains all information related to return

processing application for export to an AR system for issuance of core return credits or recovery billings documents. To complete the data synchronization cycle, a CBI returns processor import table is available to update the bank.

3. **AR Advisory Processing.** CBI billing rules control the creation of certain AR advisories, when reman invoices require immediate core billings or others based on the passage of time, including: deferred billings or bank expiration. Upon processing, the bank billing status is updated and advisory output table records are created.
4. **Inventory Export Processing.** The inventory advisory export table is automatically updated based on the acceptance of returned cores and contains the core number, appropriate cost and quantity information.

CBI Data Security, User Rights, and Custom Menus

CBI provides an additional layer of data security and user rights over normal web site access as established through a corporate firewall. CBI data tables control home menu access by user name and password and navigation rights to only active menu programs. A program is available that provides for custom menus to be easily built. The tables also can support filters for external users, customers or dealers, by restricting access rights to only specific sets of records at the customer group or customer level.

The CBI login function grants access upon entry of a valid User ID and password. CBI then controls all navigation requests according to user-specific menu permissions, restricting use of any unauthorized functions.

CBI Information Services

Information presentation support is by the extensive use of efficient sorted/filtered queries that utilize the same presentation grid across the product. Virtually all web client presentations have a variety of these queries that expose all appropriate data interactively to the user to quickly analyze, manage, or transact any CBI records; whether it be master-table or activity-based.

Example of a filtered query in CBI:

Part Groups

Part Group: [Find](#)

Description:

Product Line: [Find](#)

Unit or Value Based:

Application Preference:

[Link to Selection](#)

Part Groups Currently On File

49 Records (Page 1 of 5)

Records per page: Go to page:

[Next](#) [Close Table](#) [Reset Sort](#) [Refresh Report](#) [Show All Records](#)

Part Group (14)	Description	Product Line	Line Descr
BC101	RBSS GROUP	CEG	HYDR CALIPERS,REMAN
BC102	RBSS GROUP	CEG	REMAN
BC103	RBSS GROUP	CEG	REMAN
BC104	RBSS GROUP	CEG	REMAN

Callout 1: This bar separates the data entry and data grid presentation regions. When repositioned, the bar dynamically creates data entry and data grid region scroll bars.

Callout 2: Lookups can be filtered in data fields or directly in data grid by single or multiple entries. Wildcards present a short list. Full entry presents the specific record.

Callout 3: Sorted queries are defined by selecting one or multiple column headings, sort priority, and ascending or descending order. "Reset Sort" will revert back to the default, allowing new sorts.

Callout 4: Total number of records and pages. Define records per page up to 999. Supports "Go To Page" and "Show All Records".

Callout 5: All fields in blue are active for selection, which fill in the data entry region, assuring fast and accurate entry.

Conclusion

RES Software has applied its industry expertise to build the most robust and functionally rich Core Bank Management Solution on the market today. The underlying architecture provides unparalleled support for Enterprise Application Integration (EAI) to existing enterprise business systems, as well as Business-to-Business (B2B) system communication between customers and dealers, extending and enhancing current technology investments.

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