



# Tech Info Library

## macControl: Overview (6/93)

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### TOPIC -----

This article gives an overview of macControl, a DAL-based EIS (executive information system) from Germany.

### DISCUSSION -----

macControl is an information system software package that is appropriate for executive information systems (EIS) and decision support systems (DSS) at all levels of management. It provides an intelligent workstation environment in an on-line host relational database system, and a flexible object-oriented tool set for system development. macControl is designed to comply with the information system architecture, VITAL (Virtually Integrated Technical Architecture Lifecycle).

### END-USER ADVANTAGES

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It gives access to data at different levels, and can on demand summarize and view data in various ways. The graphical user interface allows text, graphics and data to be within the same screen simultaneously even though the information may be coming from separate databases or computers.

It provides a cooperative processing environment. This means that the client isn't limited to just sending queries to the host, and the host isn't limited to just sending data files to the client. Instead, this cooperative processing allows task performance on the computer, or by the software product, that is best suited for the task. And further, it provides two-way communication among users. In other words, you can enter data or update it using either the mainframe or the local computer.

The product platform provides report writing, extensive graphics, complete spreadsheet capability, local multi-dimensional database, functions and macros, multiple levels of security (through Usernames, Passwords, and User-dependent data access; of course, the host computer's security requirements must also be fulfilled), publish and subscribe, program launching, and so on. You can use all of these facilities interactively with the host. You can automatically generate letter-quality, paper-based reports.

macControl allows data updates, structural changes, screen modification and other maintenance requirements to be centrally administered and automatically distributed.

#### DEVELOPER ADVANTAGES

macControl is an enterprise computing software package designed to provide the developer with a tool to create an information system in a client-server or cooperative processing environment. macControl itself is an object oriented, multi-dimensional database with an object oriented interface. It operates in a distributed database environment using Data Access Language (DAL). It requires no coding or scripting.

The product can communicate with the host (or hosts) in a read/write mode. You can centrally administer workstations and automatically update them for changes in the database structures. macControl automatically generates the SQL commands necessary to perform user requirements (including commands such as: joins, data summations, minimum/maximum/average, sort, and so on).

The source database or databases can be organized in various ways. macControl can work effectively with databases dedicated as management support systems or inquiry databases. It can work with operational system databases, or directly from a view or series of views. It can also operate with a combination of management support and operational databases, and views. Developers can integrate macControl into existing systems with little or no disruption, or into newly designed systems.

macControl is a Macintosh-based software product, written to Apple Computer standards, and updated for all relevant Apple enhancements. The program makes full use of Macintosh networking capabilities.

macControl uses a graphic and object oriented interface with data driven screens. You give commands through point and click, context sensitive hot spots, and menus. Commands, pictures, objects, sounds, charts, local formulas, and local data are held in macControl's multi-dimensional, object-oriented database. This database, even though on the local workstation, is administrated, updated and centrally stored on the main host.

The automatic SQL commands are produced based on the multi-dimensional structural design of the macControl application. It accommodates highly normalized SQL databases, and macControl does the following:

- Creates commands for the consolidation hierarchies and to reflect their multi-dimensional nature
- Provides the multi-dimensional required views
- Optimizes the command for speed of retrieval and data volume
- Provides means for complex summations
- Allows merging of different time series, and
- Facilitates exception reporting.

In structuring an application, the developer can select from the available,

automatically displayed, databases and tables. The selections are then associated with macControl's multi-dimensional groups and attributes. Based on these associations, the screens and worksheets can be rapidly developed.

- 1) The user selects from the menu buttons the desired data combinations.
- 2) The menu combinations activate formulas that tell macControl's database manager the type of SQL commands that need to be sent.
- 3) The data is returned from the host.

At this point, the data is temporarily held in the macControl application structure allowing the data to be presented in a variety of views. (This provides significant advantages over SQL query and query-like tools.) Further, the user has an option, if permitted by the security system, to retain some of the data locally (typically high level data). You can use the data further in portable systems (such as a PowerBook). The operation is totally transparent.

macControl provides ad hoc reporting capabilities and data analysis tools. The developer doesn't have to anticipate all user inquiries, and the user has some degree of freedom in acquiring desired information. Through built-in system commands such as launch, and publish and subscribe, you can use and integrate standard or custom communication programs.

macControl can run in a stand-alone version, network version, run-time version, limited-host version (storage of data on host only), and a full-host version (storage also possible on local computers, that is, PowerBook).

PC platform: Macintosh IIci or larger, including PowerBook; 8MB of RAM recommended.

#### CLIENT/SERVER ENVIRONMENT

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Data for an EIS/DSS is located in a number of places and may exist in many different formats within the computers of an enterprise. Therefore data transfer is of great significance in an EIS/DSS application.

The flexibility of EIS/DSS software in facilitating data transfer and storage is a critical issue in the software selection process. As a rule, software should be able to work with data stored in local networks within individual workstations or multi-workstations, handle ASCII data transfers, and operate on-line with host or multi-host data.

#### macControl's Working Environment

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- Server - Hardware
  - IBM Mainframes
  - IBM Workstations
  - DEC Vax
  - DEC Ultrix
  - AT&T
  - DG Aviiion

- DG Eclipse
- HP 9000
- NCR 3000
- Sun
- Apple Macintosh
- MS-DOS
- Sun
- Tandem
  
- Server - Operating System
  - A/UX
  - VM/CMS
  - MVS/TSO
  - MVS/VTAM
  - DOS/VSE
  - VAX/VMS
  - UNIX SVR4
  - DG/UX
  - ULTRIX
  - HP-UX
  - AIX
  - SunOS
  - MacintoshOS
  - Novell Netware
  - AOS/VS II
  - Guardian C-30
  - OS 400
  
- Server - DBMS
  - SQL/DS
  - DB 2
  - Teradata DBC/1012
  - CA-Datcom
  - CA-IDMS
  - Ingres
  - Informix
  - Oracle
  - Sybase
  - CA-DB
  - Butler
  - Netware SQL
  - Infos II
  - DG/SQL
  - Nonstop SQL
  - P.inK
  - AS 400 SQL

#### MACCONTROL TECHNICAL DATA

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- General Features
    - Rapid prototyping and development

- Structured data base on entity-relationship principles
- Automatic SQL-generation
- Dynamic worksheets with selection menus
- PC and host oriented - with relational data base communication capabilities
- Communicates with strategically important standard software
- Exceptionally good user interface
- "data" and "structure" driven screens
- EIS/DSS Development Environment
  - Object orientation
  - Time series orientation
  - Selection menus
  - Multiple Drill-down
  - Pull-down Menus
  - Windows
  - Text processing
  - Definable calendar
- Graphic Presentation
  - 46 different graphic types
  - Graphic formats
  - Graphic combination
  - Graphics within graphics
- Functions
  - Mathematical
  - Statistical
  - Print
  - Finance
  - Time
  - Test- and Documentation
  - Reporting
- Data Import
  - Communication with relational data bases with Apple's DAL
  - Reads all ASCII formats
- Technical Aspects
  - 55 Dimensions
  - 32,000 attributes per dimension
  - 32,000 dynamic worksheets
- Client/Server Hardware
  - Client: Apple Macintosh models (Motorola 68030 processor and upward)
  - Host: Hardware from major host, workstation and PC vendors

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