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**Lance S. Hoffman**

N&C Product Marketing  
CL/1 Product Manager

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# **Advanced CL/1 Tips and Techniques**

CL/1 Update and Direction

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**Beginning this fall....**

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*CL*/1™

The logo features the letters 'CL' in a grey, serif font, followed by a thin diagonal slash. To the right of the slash is a large, bold, magenta number '1'. A small 'TM' trademark symbol is positioned to the upper right of the '1'.

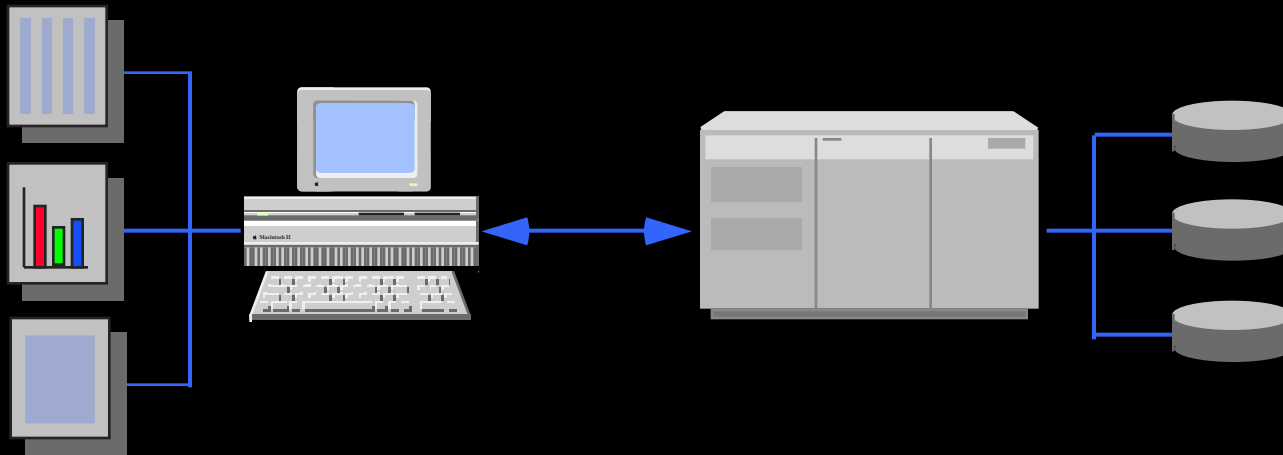
**Will be known as .....**

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**Data  
Access  
Language**

# Data Access Language

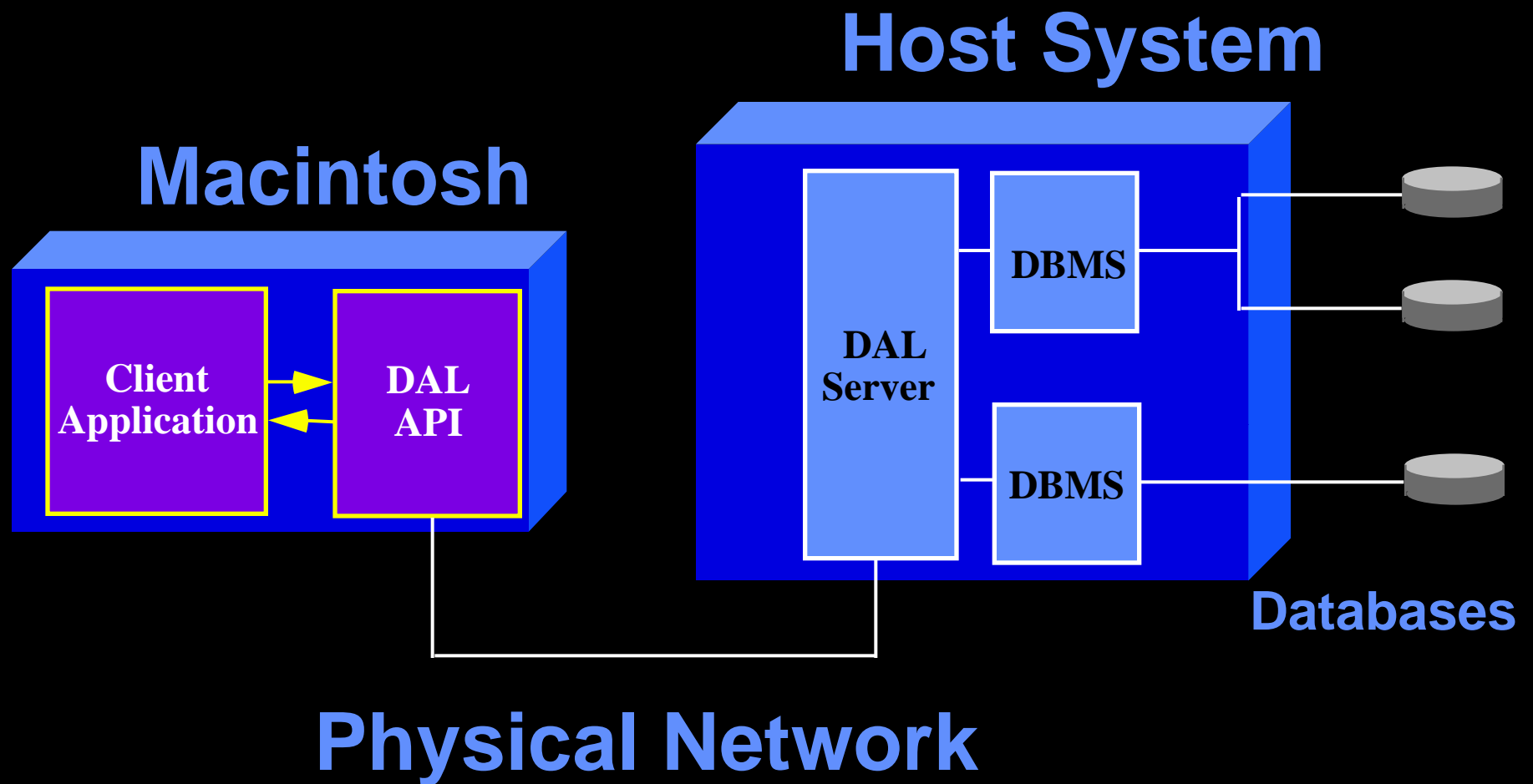
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**A standard connectivity language that links desktop applications to host data**

# Client-Server Architecture

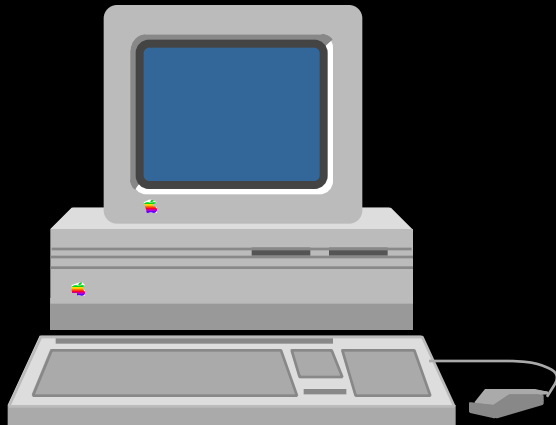
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# All Components Shipping from APDA

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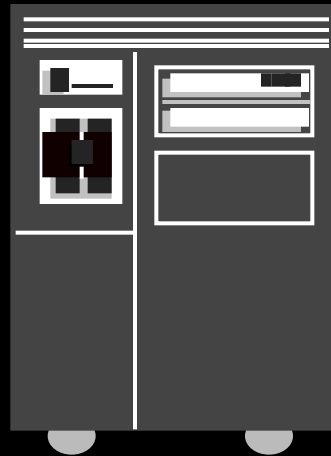
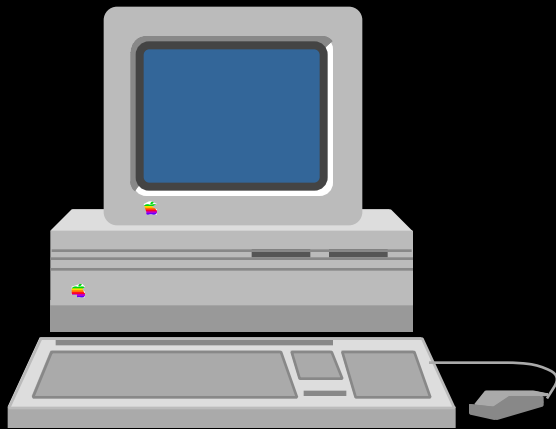
**Developer's Toolkit for the Macintosh**  
**\$695.00 (Single use license)**



# All Components Shipping from APDA

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**Server for VAX/VMS: \$5000.00**



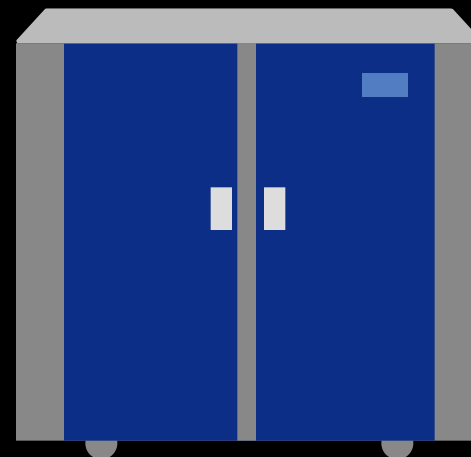
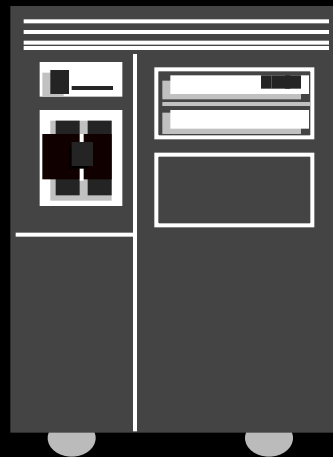
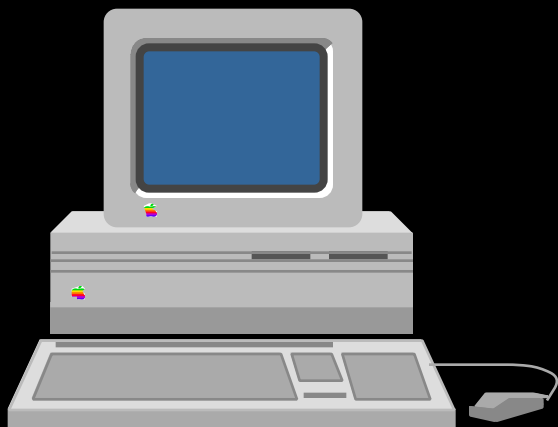


# All Components Shipping from APDA

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**Server for VM/CMS: \$15,000**

**Server for MVS/TSO: \$20,000**



## **DEC LanWorks Product**

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- **DAL Client software**
- **DAL Server for VAX/VMS (Rdb only)**
- **APDA will offer other DB adapters**

# Supported Databases

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# Development Tools

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- HyperCard
- C
- Pascal
- 4th Dimension
- Omnis 5

# Spreadsheets

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- **Informix: Wingz**
- **Microsoft: Excel**
- **Ashton-Tate: Full Impact**

# Query Tools

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- **Andyne Computing Ltd.: GQL**
- **Claris: Claris Query Tool**
- **Fairfield Software: ClearAccess**

# Mapping Products

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- **Odesta: GeoQuery**
- **Tactics International: Tactician**

# Expert Systems

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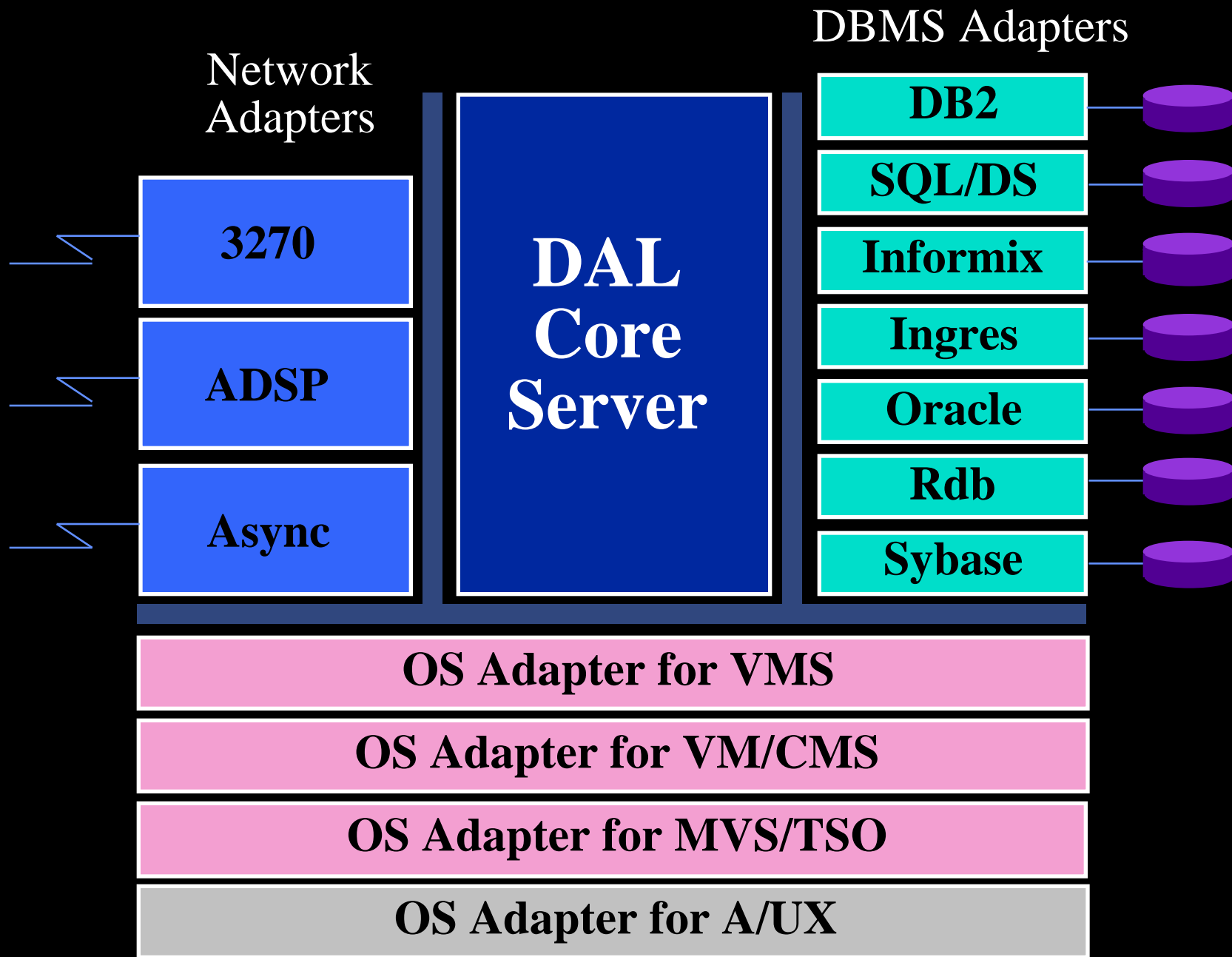
- **Millenium Software: HyperX**
- **Neuron Data: Nexpert Object**



# IBM Communicatons

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- **Avatar: MacMainframe**
- **DCA: MacIRMA**
- **TriData: Netway 1000/2000**





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**Jim Groff**

Network Innovations Corp.  
President

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# **CL/1 Advanced Tips and Techniques**

Six “One-Minute” Tips

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# Six “One-Minute” Tips for CL/1

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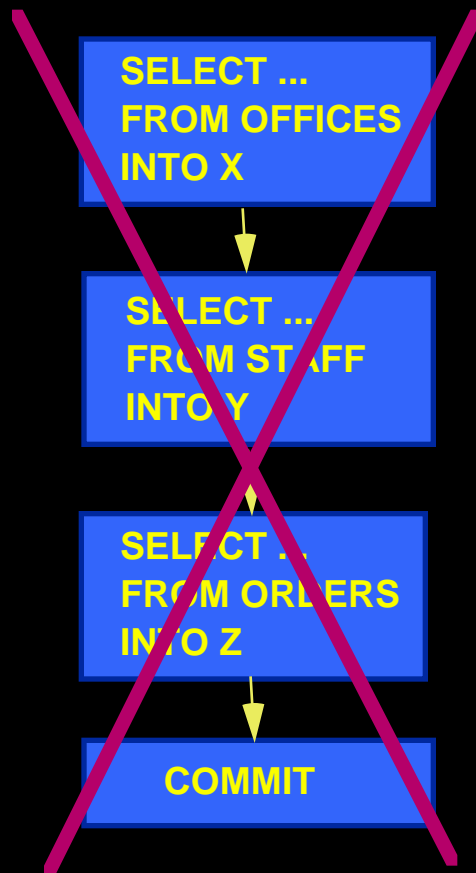
- DBMS brand profiles
- Transaction management
- SELECT modes
- Output control
- Opening and closing tables
- DBMS non-uniformities

# DBMS Brand Profiles

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- Obtain via DESCRIBE statements
- Profiles describe:
  - Available DBMS brands
  - Security at DBMS and database level
  - Database structure
  - Available databases
  - Required OPEN parameters
- Use to customize dialogs and menus

# Transaction Management



- Transactions are *implicit* in CL/1
- Transactions cause locking (even queries!)  
- *so* -
- Close cursors when finished with them
- Commit early and commit often

# SELECT Modes

Mode:	Readonly	Update	Scrolling	Extract
Overhead	Low	Low	High	High
Delay	Low	Low	Low	High
Sh-file	No	No	Yes	Yes
\$rows()	No	No	No	Yes
Updates	No	Yes	No	No
Locks	Read	Write	Read	None



# SELECT Modes–Guidelines

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- Use READONLY (default) for:  
SELECT/PRINTALL/DESELECT
- Use UPDATE for positioned updates
  - Not all DBMS brands support them!
  - Check profile strings
- Use other modes for “scrolling”:
  - SCROLLING: no delay, longer locks
  - EXTRACT: less delay, shorter locks

# Output Control

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- Use formatted output when appropriate
  - Data type conversion (printf)
  - Data type formatting (printf fcns)
  - Output formatting (printf & \$format)
- Use binary output when appropriate
- Decide how to manage errors
  - Within CL/1 script # (errctl 1)
  - Within application # (errctl 0)

# Opening and Closing Tables

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- OPEN/CLOSE TABLE statements
- Statements are optional, but ...
- Behind-the-scenes effects:
  - DBMS “file open” overhead
  - CL/1 server dictionary cache
  - DBMS sharing/locking options
- Use them if “natural” for your application

# DBMS Irregularities

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- GROUP BY rules
- Aggregate functions
- Collating sequences
  - ASCII/EBCDIC
  - International characters
  - NULLs



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# **CL/1 Advanced Tips and Techniques**

Development Priorities

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# CL/1 Development Priorities

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- Support and maintain current products
- Meet announced product commitments
  - Apple/Digital alliance
  - System 7 (Data Access Manager)

## CL/1 Development Priorities (*cont.*)

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- Product enhancement
  - Improved connection management
  - Long data (text and “blobs”)
  - Stored procedure libraries
  - Support for “DP” applications
  - Query management
- Additional host platforms and transports









The power to be your best