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October 29-31, 2007
Plano, Texas

**Re-Energizing you VSAM Data with
CA Quikserv for CA Gen**

October 30, 2007 11:00 a.m. – 12:00 p.m.

Kevin Shuma, CA

Agenda

- VSAM Today
- Re-Energizing VSAM Systems
- Critical Factors is Choosing Solutions
- The CA Quikserv Solution
- The CA Quikserv Process
- Legacy Renewal and CA Quikserv
- Q&A

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VSAM Today

- COBOL/VSAM
  - Exists at almost every mainframe site
  - Mission critical systems
  - CICS and BATCH
- Assembler/VSAM
  - Exists at a smaller number of sites
  - Mission critical systems
  - In many cases, no programmer resources available to change/convert

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Re-Energizing VSAM Systems

- Focused on clients with legacy COBOL/VSAM environments that want
  - To expand the data access to include:
    - SQL
    - ODBC
    - JDBC
  - Without
    - Costly Conversions
      - Significant costs (resource and/or costs)
    - Poor performance solutions

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Critical Factors For NOT Choosing – "Big Bang" Conversion Strategy

- Client has a large investment in COBOL/VSAM
- Moving VSAM data to rDBMS for SQL access
  - "Big Bang" conversion of everything from existing applications to modern applications on rDBMS
    - Too expensive (need a lot of resources all at once)
    - Too scary (all eggs in all basket)

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Critical Factors For NOT Choosing – "Dual Data" Conversion Strategy

- "Dual Data" strategy
  - Clients move some of the business to modern applications on rDBMS, other applications remain on COBOL/VSAM
  - Less costly (in the short term)
  - Less Scary (limit exposure)
  - Has its own set of problems
    - How do you keep the data in-synch
    - How do you ensure new business rules built into modern applications are equally applied to systems still running COBOL/VSAM
    - What happens if the effort stalls or takes longer than expected

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Critical Factors For NOT Choosing – "SQL Emulation" Strategy

- "SQL emulation" strategy
  - Clients leave data in VSAM
  - Client purchases middleware that emulates SQL access (as well as ODBC/JDBC)
  - Less Scary (limit exposure to just new access)
  - Has its own set of problems
    - Not all data may be available
    - Performance may not meet requirements
      - Typically single table queries work OK
      - But the more complex the query (multiple tables and multiple SQL functions) the slower the response
      - May not support maintenance (update/add/delete)

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The Solution: Re-Energizing VSAM Systems with CA Quikserv

- Special packaging of CA Datacom®
- Special pricing
- Industrial strength rDBMS
  - Proven technology
  - Small z/OS footprint
  - Very flexible access
- Customer Success Stories

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The Solution: Re-Energizing VSAM Systems with CA Quikserv

- CA Quikserv package includes CA Datacom options:
    - DB/DD   – Database and Dictionary
    - SQL   – SQL Option (compatible with GEN)
    - CICS Serv.   - CICS Support
    - Server   - JDBC/ODBC (compatible with GEN)
    - VSAM-Trans. - Allows VSAM applications to access CA Datacom tables (with no code changes)

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The Process - Install CA Datacom with VSAM-T

- Move VSAM files into CA Datacom (tables)
    - Simple utility provided to move data from VSAM to CA Datacom
- Existing VSAM applications continue to run unchanged
    - Object level transparency
        - No application changes or recompiles
        - Batch requires a minor change to JCL
    - In most cases performance of VSAM applications is as good or better running under VSAM-T
- Immediately gain all the benefits of a rDBMS
    - Logging/Recovery
    - Unlike VSAM there is no limits to the share-ability of the data between
        - Multiple regions (batch and online)
        - Multi-LPAR access
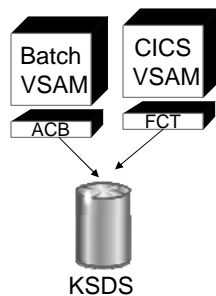   - Multi-Sysplex access

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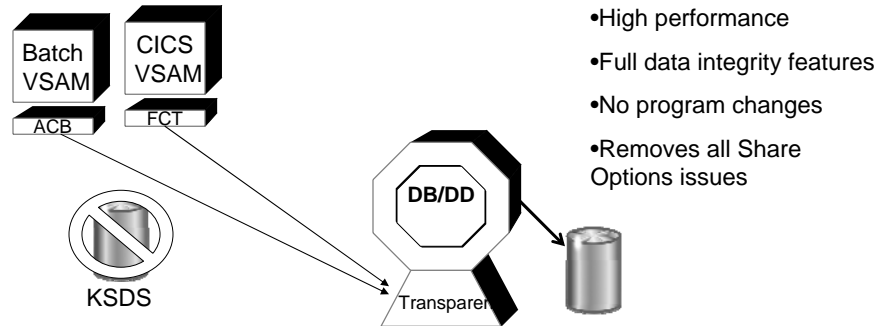
The Process (continued)

- VSAM-T can be implemented one VSAM file at a time
  - Batch requires a simple JCL change
  - For CICS update the VSAM-T control table and issue a CICS command to activate or deactivate
  - Mixed mode is supported
    - One program with
      - VSAM files
      - VSAM-T files (now on CA Datacom)
      - VSAM access
      - SQL access

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The Process - Start with VSAM

Batch VSAM

CICS VSAM

ACB

FCT

KSDS

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The Process – Implement VSAM-T

Batch VSAM

CICS VSAM

ACB

FCT

KSDS

DB/DD

Transparent

- High performance
- Full data integrity features
- No program changes
- Removes all Share Options issues

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The Process – Add in SQL Access

- **Data is defined to CA Datacom's Datadictionary (meta data)**
  - Automated procedure converts COBOL copybooks (or Assembler DSECTS) to data definitions
  - Optionally client can add additional meta data or redefine existing data structures
  - Various reports and online screens available to display data definitions and record/row structures

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The Process – Add in SQL Access

- **Selectively enable SQL access to tables**
  - Existing META data is updated for SQL attributes
  - Optionally client can add additional SQL attributes
- **Datacom SQL extensions**
  - Make non-relational data available to SQL
    - Good performance (no emulation)
    - Group fields
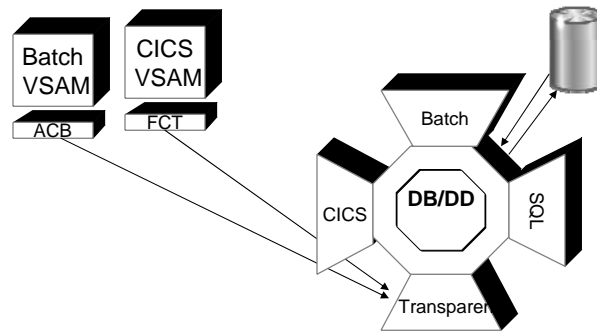   - Occurring fields
    - Redefined fields

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The Process – Add in JDBC/ODBC

- **Once SQL access is enabled, new applications using SQL, JDBC and/or ODBC can be implemented**
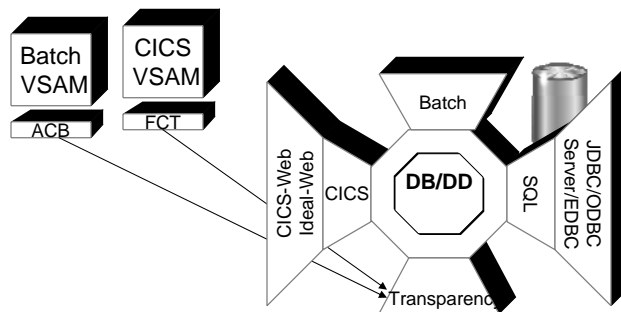- **CA Datacom includes a high-performance external security interface that can be used to secure data by the path taken**

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The Process – Add in SQL (and navigational access)

Batch VSAM
ACB

CICS VSAM
FCT

Batch

CICS

DB/DD

SQL

Transparent

- Data accessible via VSAM calls
- Data is also available for CA Datacom's high performance navigational access
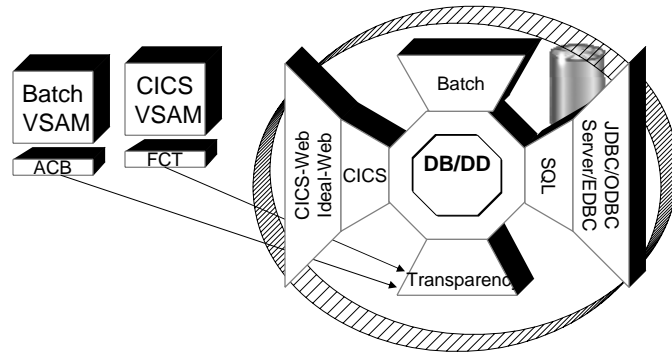- As needed SQL access can be added

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The Process – Add in ODBC and JDBC

Batch VSAM
ACB

CICS VSAM
FCT

Batch

CICS-Web Ideal-Web

CICS

DB/DD

SQL

JDBC/ODBC Server/EDBC

Transparency

- Add in support for JDBC/ODBC and CICS Web
- Without any application changes the data is now available to multiple access paths

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The Process – Add in SQL Business Rules

Batch VSAM

CICS VSAM

ACB

FCT

Batch

CICS-Web
Ideal-Web

CICS

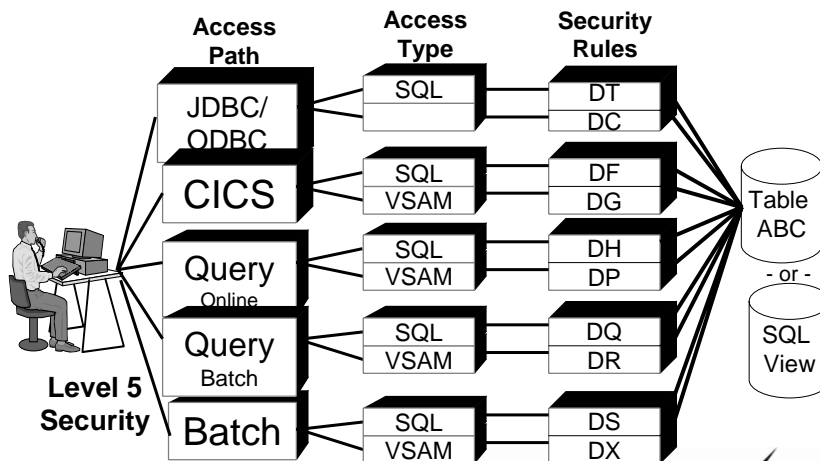DB/DD

SQL

JDBC/ODBC
Server/EDBC

Transparency

Business rule:
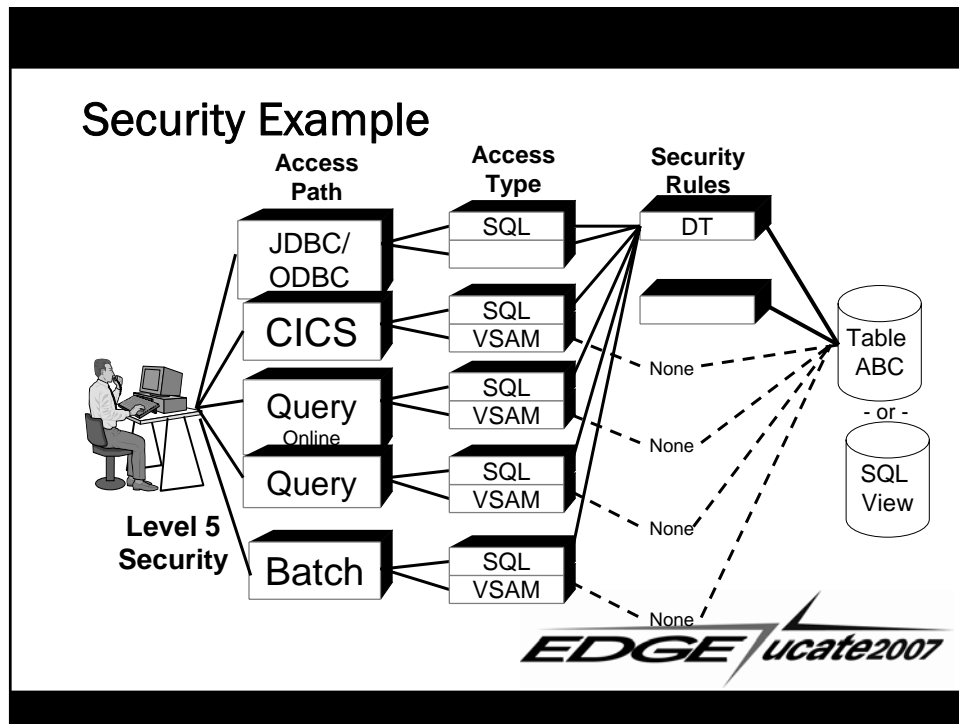*"A client record can not be deleted if he has open order records"*

- SQL provides various constraints and integrities to implement business rules

- These can be implemented and they will "protect" all accesses (including VSAM-T)

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CA Datacom Security Model

Access Path	Access Type		Security Rules	
JDBC/ODBC	SQL		DT	
			DC	
CICS	SQL	VSAM	DF	DG
Query Online	SQL	VSAM	DH	DP
Query Batch	SQL	VSAM	DQ	DR
Batch	SQL	VSAM	DS	DX

Level 5 Security

Table ABC
- or -
SQL View

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Security Example

Diagram showing Access Path (JDBC/ODBC, CICS, Query Online, Query, Batch), Access Type (SQL, SQL VSAM), Security Rules (DT, None), Level 5 Security, and Table ABC -or- SQL View.
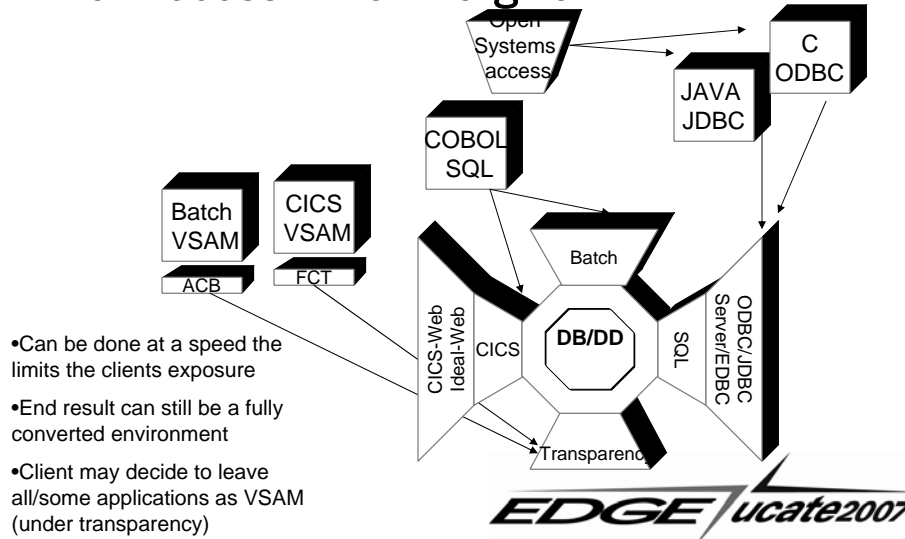
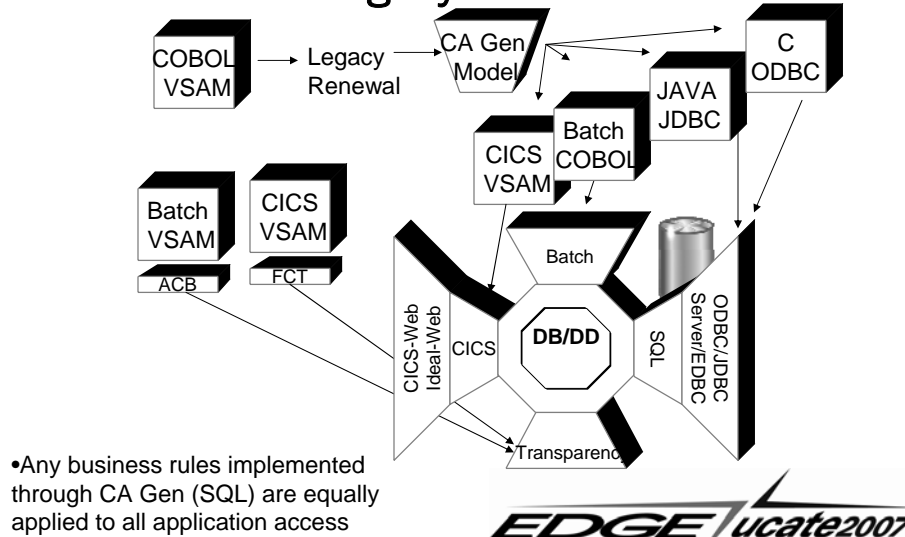---

The Process – Begin Legacy Renewal

- **Now that the data is housed in a sharable relational database**
  - Clients can write new SQL based applications
  - Clients can add ODBC/JDBC based applications
  - Clients can even select certain existing COBOL/VSAM applications
    - Add in additional data access using SQL (or navigational) commands
    - Convert them to navigational/SQL access

The Process – Re-Energize

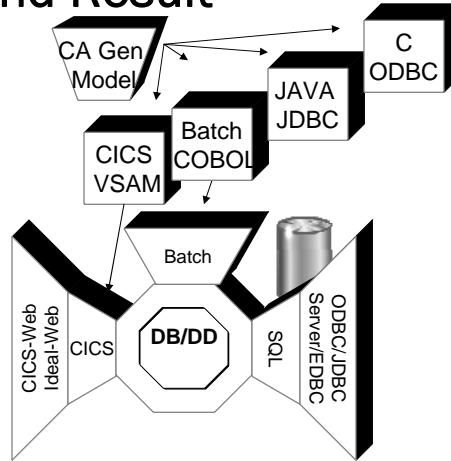- Can be done at a speed the limits the clients exposure
- End result can still be a fully converted environment
- Client may decide to leave all/some applications as VSAM (under transparency)

The Process – Legacy Renewal

- Any business rules implemented through CA Gen (SQL) are equally applied to all application access

The Process – End Result

•If required client could re-target some or all of the CA Gen applications to a non-Datacom rDBMS

CA Gen Model

C ODBC

JAVA JDBC

Batch COBOL

CICS VSAM

Batch

DB/DD

CICS-Web Ideal-Web

CICS

SQL

ODBC/JDBC Server/EDBC

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Q & A

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EDGE Needs Your Feedback!

- Please complete the conference evaluations
- Your feedback/suggestions are necessary to continue to bring you top-notch events

- Thank You for Coming – See you in 2008!