



Welcome to the Virtual IMS user group newsletter. The Virtual IMS user group at www.fundi.com/virtualims is an independently-operated vendor-neutral site run by and for the IMS user community.

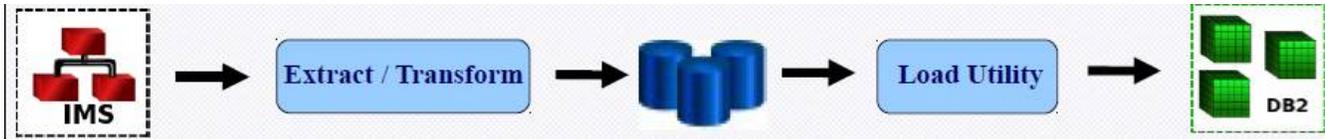


Figure 1: ETL (Extract, Transform, Load)

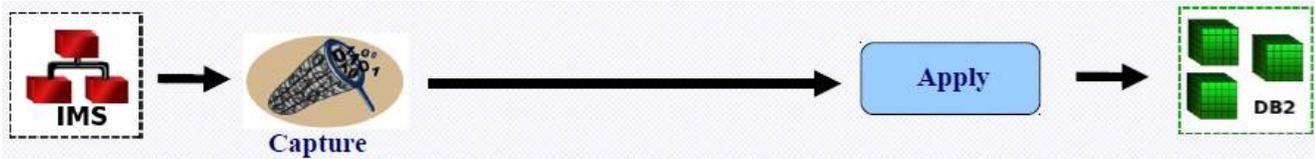


Figure 2: CDC (Changed Data Capture)

Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "Best Practices: IMS to Relational Data Movement", and was presented by SQData's CEO, Scott Quilly.

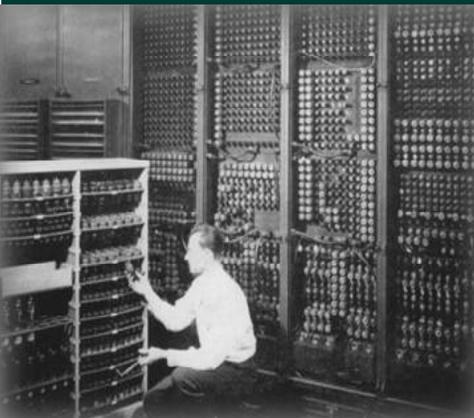
Scott is the CEO and founder of SQData, an Addison, TX-based software company that specializes in high-

performance Changed Data Capture (CDC) for mainframe and distributed databases. He has over 25 years of database experience and is considered an expert in database replication strategy and deployment. Scott has managed a number of large data integration projects, many of which involved the near-real-time data capture of IMS databases to a variety of downstream databases/ applications. Prior to founding

SQData, Scott played a key role in the design and development of IBM's DB2 Performance Monitor.

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Scott started by explaining why sites would want to convert from IMS to relational data, listing reasons such as:

- Providing users with a method of querying data outside of IMS
- Business Intelligence / Data Warehousing
- Co-existence with newer applications
- Application migration / replacement
- “We’re moving off the mainframe”.

Scott then ran through some success factors for such a conversion, including:

- Access to subject matter expert(s):
 - Significantly decreases risk
 - Leverage knowledge of data / business rules
 - Becoming more difficult to obtain with outsourcing, retirement, etc.
- Planning:
 - Required to keep risk at a minimum
 - Secure the proper personnel
 - 40%: analysis and design
 - 20%: conversion –

assuming a tool is used

- 40%: testing / validation
- Analysis / design:
 - IMS to relational data modelling
 - Source to target mapping specifications
 - Validation criteria / test plan
- Validation.

Associated with this are high-risk elements:

- No access to subject matter expert(s):
 - Significantly increases risk
 - Extends the project timeline
 - Results in guesswork for design and mapping
- Underestimating the complexity of IMS to relational conversion
- Big Bang approach – attempting to migrate everything at once:
 - Recommend phased implementations
 - Subsequent migrations become shorter: experience and lessons learned
- Fast-tracking planning and analysis:

- Causes unnecessary rework and waste
- More time spent on the front end saves on the back end
- High-transaction workload on the IMS side:
 - Applies primarily to application conversion
 - Performance will NOT be the same as with IMS.

In terms of common implementations, Scott Quillicy suggested:

- Simple conversion:
 - Relational model closely resembles IMS structures
 - Shortest migration timeline
 - Highest chance for success if SMEs are not available
- Business Intelligence / Data Warehousing:
 - Relational models can diverge from existing IMS structures
 - Master Data Management (MDM) comes into play
 - More ‘moving parts’ / dependencies than simple conversions
- Application integration:

- Relational models are dictated by new application
- Usually requires more data transformation: SMEs critical
- Application conversion
 - Most complicated implementation
 - Relational model depends on extent of application design
 - Significant time must be allocated for testing / validation.

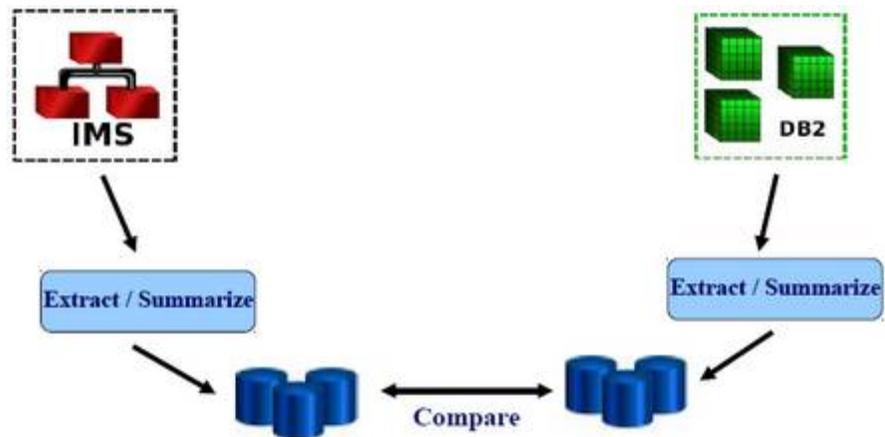


Figure 3: Data validation

ETL (Extract, Transform, Load) requires full data extract / load, data transformation logic to be defined in this step, it's an iterative process that must be fast and efficient, and should minimize data landing. This is illustrated in Figure 1.

CDC (Changed Data Capture) keeps data in-sync after the initial load, which allows for a phased implementation. It should be able to re-use data transformation logic from ETL. And it's helpful to be able to replicate both ways. This is illustrated in Figure 2.

Common data challenges that users face include:

- Invalid data:
 - Non-numeric data in numeric fields

- Binary zeros in packed fields (or any field)
- Invalid data in character fields
- Business rule violation – requires assistance from SME
- Dates:
 - Must be decoded / validated if target column is DATE or TIMESTAMP
 - May require knowledge of Y2K implementation
 - Allow extra time for date intensive applications
- Text / comment fields:
 - Usually mapped to VARCHAR
 - Stop mapping at first non-printable, non-control character
- Binary / 'special' fields:
 - Very common in older

applications developed in 1970s / 80s

- Generally requires application-specific translation.

Scott Quillicy explained in some detail how to deal with issues such as: redefined fields; redefined segments (both full and partial); repeating groups / occurs; non-keyed segments; and continuation segments.

When it comes to data validation, human verification is required during the initial conversion. After that, automated verification can be used and may require utilizing ETL / CDC scripts for counts, checksums, and comparing the source and target fields with the same attributes.

A copy of Scott's presentation is available for download from the Virtual IMS user group Web site at www.fundi.com/virtualims/presentations/IMStoRelationalAug12.pdf.

You can see and hear the whole user group meeting by downloading the WMV file from www.fundi.com/virtualims/presentations/2012-08-07meeting.wmv.

Meeting dates

- 9 October 2012 – CA Technologies' Aurora Emanuela Dell'Anno.
- 4 December 2012 – BMC Software's Bill Chapin.

IMS news

Oracle has announced Oracle Tuxedo ART 12c, which lets sites run mainframe applications on Exalogic. TuxedoART currently emulates CICS, and, with this release, ART will also emulate IMS. Sites running IMS could move their applications to Tuxedo and have them run on Exalogic. More information can be found at <http://www.oracle.com/us/corporate/press/1721980>.

Logic Online has announced Version 2 of RIPPLE-TRAC for Source Code and IMS, which helps distinguish high-from low-leverage features or behaviours (concerns) in highly-complex systems. Separation of 'concerns' is a concept that is at the core of software engineering. It refers to the ability to identify,

encapsulate, and manipulate those parts of software that are relevant to a particular concern (concept, goal, purpose, etc). The product encapsulates of all kinds of 'concerns' in a software system, simultaneously. More information can be found at http://www.legacyimpactanalysis.com/Portals/0/RIPPLE-TRAC%20for%20source%20IMS_v2.pdf.

Recent IMS articles

Sadly, there haven't been any IMS articles since the last issue of this newsletter!

Don't forget that you can stay up-to-date with all that's happening in the IMS world and with what's happening with the Virtual IMS user group by following us on Twitter or finding us on Facebook or joining our group on LinkedIn.

Our special thanks to Fundi Software (www.fundi.com), whose sponsorship makes this user group possible.

About the Virtual IMS user group

The Virtual IMS user group was established as a way for individuals using IBM's IMS hierarchical database and transaction processing systems to exchange information, learn new techniques, and advance their skills with the product.

The Web site at www.fundi.com/virtualims provides a central point for coordinating periodic meetings (which contain technically-oriented topics presented in a webinar format), and provides articles, discussions, links, and other resources of interest to IBM IMS practitioners. Anyone with an interest in IMS is welcome to join the Virtual IMS user group and share in the knowledge exchange.

Our social media sites are [fb.com/virtualims](https://www.facebook.com/virtualims), twitter.com/virtualims, [linkedin.com/groups?gid=3792561](https://www.linkedin.com/groups?gid=3792561).

To share ideas, and for further information, contact trevor@itech-ed.com.

The Virtual IMS user group is free to its members.