Virtual IMS user group: Newsletter 70

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.

Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "Managing changes in IMS environments". It was presented by Glenn Witt, Principal SQA Engineer at BMC Software.

Glenn is a Principal SQA Engineer with BMC Software, Inc. He has worked in the IMS Database Utilities group for over 28 years specializing in software quality. He has a Bachelor of Science degree from Indiana University and has worked in financial and airline businesses prior to joining BMC.

Glenn Witt started by looking at types of changes and environments.

For legacy environments, object definitions will be stored in DBDLIB, PSBLIB, and ACBLIBs. Changes will be activated with ACBGEN->OLC commands. For the Catalog, object definitions will be stored in DBDLIB, PSBLIB, ACBLIBs, and the Catalog. Changes will be activated with (ACBGEN+CatPop)->OLC commands. For IMS-managed ACBs environments, object definitions will be stored in the Catalog and Directories. Changes will be activated with DDL ->IMPORT commands. For all of these, users need to think about objects stored in DBRC, MDALIB, and IDCAMS.

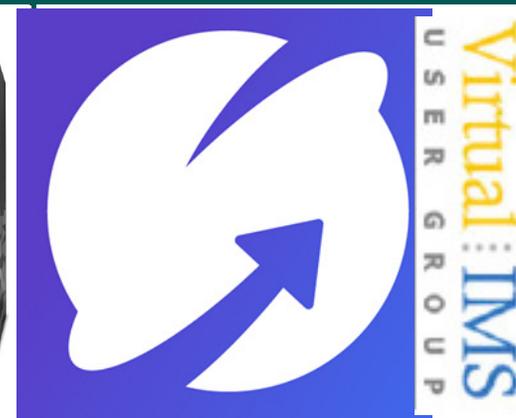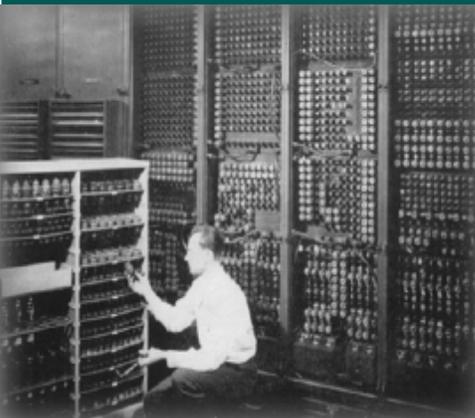In general, the steps to take when making a change are:

- Determine the scope of the change

- Decided which objects are changing

- Identify any secondary changes required

- Choose which processes will perform the changes

- Decide how to reset if errors occur.

As shown in Figure 1, many changes will require secondary changes. Secondary changes affect other objects that have

Object Change Inventory

Secondary changes: other objects that have to be changed to agree with the changed object

Initial change + secondary changes = full change inventory

Examples:

Desired Result	Initial Change	Secondary Changes
Add compression routine to a segment	DBD	ACB
Increase segment length	DBD	ACB, Application programs
Add dataset group to full function database	DBD	ACB, MDA member, DBRC definition, IDCAMS statements

Figure 1: Object change inventory

to be changed to agree with the changed object. So, for change to be successful, there will be the initial change and any secondary changes. Glenn gave the user group some examples. For example, if the desired result is to add a compression routine to a segment, the initial change is to the DBD, but a secondary change has to be made to the ACB. Similarly, if the desired result is to increase the segment length, the initial change is to the DBD, but a secondary change has to be made to the ACB and application programs. Thirdly, if the desired result is to add a dataset group to full function database, the

initial change is to the DBD, but a secondary change has to be made to the ACB, MDA member, DBRC definition, and IDCAMS statements.

The change process is basically:

- Backup original objects (source and/or generated). Version control systems can help.

- Change the source of full change inventory. This could include: DBDSRC or DDL, MDASRC, DBRC statements, IDCAMS commands.

- Generate produced objects to staging areas, eg DBDGEN, ACBGEN, IDCAMS defines.

- Perform database maintenance (dbrc changes, reorgs, etc).

- Copy staged objects to active objects.

- Issue commands to activate the new copies using OLC, IMPORT, Delta RELOAD.

For non-managed ACBs, with no Catalog, the steps are:

1 DBDGEN/ACBGEN to staging datasets. Staging datasets are external to IMS

2 Take offline, move in mda changes

3 Issue DBRC updates

4   Perform reorg/index build/ image copy

5   Copy staged ACB to inactive ACBLIB. / DISPLAY MODIFY shows which is active. Perform OLC commands to switch ACBLIBs (/MODIFY PREPARE and /MODIFY COMMIT).

Steps 3 and 4 can become a single step using DBRCUPDT. Steps 3, 4, and 5 can be a single step using Delta.

For non-managed ACBs with a Catalog, the first thing to remember is that the Catalog is mostly added "for free". The steps are:

•   DBDGEN/ ACBGEN+Catalog to populate to staging datasets. Staging datasets are external to IMS. The Catalog maintains the staging record.

•   Reorg/dbrc/mda change exactly as without a catalog. The Catalog determines the active entry by timestamp (matches to the active ACB).

•   Remember the catalog purges over time as new entries are added with each change.

For IMS-managed ACBs, the Catalog and "bootstrap dataset" are required. The steps are:

•   ACBGEN+Catalog populate or submit DDL. DDL works through batch or by IMS Explorer for Development. It produces staged record in the catalog and adds a directory member to the "staging directory". The staging directory is not external like ACBLIB was.

•   Reorg/db maintenance as usual

•   IMPORT DEFN SOURCE(CATALOG) command activates staged changes. It moves staged directory members to the "active directory".

When it comes to database maintenance steps, Glenn reminded the user group that not all DBD changes require a reorg. He said that any physical layout change requires a reorg. Users need to add/remove/ change compression routine and change randomizer parameters. For any dataset changes, DBRC and/or MDA changes are needed. Users need to add/remove/change dataset groups and add/ remove/change partitions. For strictly logical changes, no reorgs are needed, just an ACB change. users will need to add FLD metadata, add FLD definitions to previously

unused space, rename/ reorder non-key FLDs, and add/change REMARKS.

A copy of Glenn Witt's presentation is available for download from the Virtual IMS user group Web site at fundi.com/ virtualims/presentations/ IMSManagingChangeOct19. pdf.

You can see and hear the whole user group meeting at https://youtu.be/ Z7ON4qNBYnA.

Meeting dates

•   On 3 December 2019, JGary Euler, a Consultant with MainTegrity Inc, will be discussing "Keeping multiple IMS LPARS synchronized while complying with GDPR and PCI/DSS standards".

•   The following meeting will be on 4 February next week.

Recent IMS articles

Go ahead. Be picky! Import only the DBDs and PSBs that you want! by Sandy Stoob on z Systems Developer Community (19 September 2019). You can find the article at https://developer.ibm.com/ zsystems/2019/09/19/go-

ahead-be-picky-import-only-the-dbds-and-psbs-that-you-want/

Avoiding downtime, bottlenecks, and other dramas with better IMS Connect workload routing by Tracy Dean on z Systems Developer Community (9 September 2019). You can find the article at https://developer.ibm.com/zsystems/2019/09/09/avoiding-downtime-bottlenecks-and-other-dramas-with-better-ims-connect-workload-routing/

Sponsorship opportunity

Are you missing a great opportunity to advertise your IMS software?

The Virtual IMS user group is now offering software vendors the opportunity to advertise their products in a number of ways. You could have an advert on the home page of the Web site (at www.fundi.com/virtualims), you could advertise in the newsletter, and/or you could advertise in the monthly e-mails sent to members of the user group.

E-mail trevor@itech-ed.com for full information about marketing opportunities with the Virtual IMS user group.

Arcati Mainframe Yearbook

How do you know what's really going on at other mainframe sites?

As a member of the Virtual IMS user group, I thought you would be interested in the Arcati Mainframe Yearbook. Each year, it publishes a mainframe users' survey. And you can be part of that survey to tell us your opinion.

If you're prepared to give up 10 minutes of your time to complete a survey form, we will send you a free copy of the survey results when they are published in January. Your identity and company information will be treated in confidence and will not be divulged to third parties.

The annual mainframe user survey form can be found at https://itech-ed.com/AMY20/usersurvey20/. Tell us what it's like where you work.

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.

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

The Virtual IMS user group is free to its members.