



Virtual IMS user group: Newsletter 84

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

```

ILOG  FUNC=WRT,          CALL IMS LOGGER
      DECB=(R5),
      RCD=(R10),
      SCD=(R11),
      WAITYPE=IWAIT

+*,FUNC=WRT
+   MVI  4(1),ILOGFWRT   WRITE FUNCTION FOR DECTYPE  @BIH8I
+   MVI  5(1),ILOGOLDS  SET LOG DATA SET TYPE     @BIH8I
+   LA   15,0(R10)      CLEAR HIGH ORDER BIT      @BIAA4
+   ST   15,12(1)       STORE DATA ADDRESS IN DECB @BIAA4
+*,WAITYPE PARAMETER IGNORED
+   LLGF 15,SCDREENT-SCD(R11)  LOAD LOGGER ENTRY ADDR
+   BASSM 14,15         BRANCH TO LOGICAL LOGGER

```

Figure 1: IMS log record component

Virtual IMS user group presentation

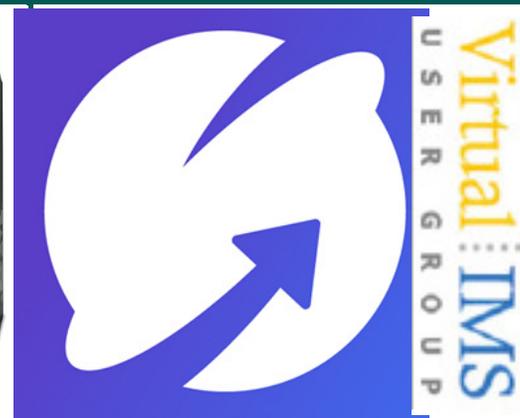
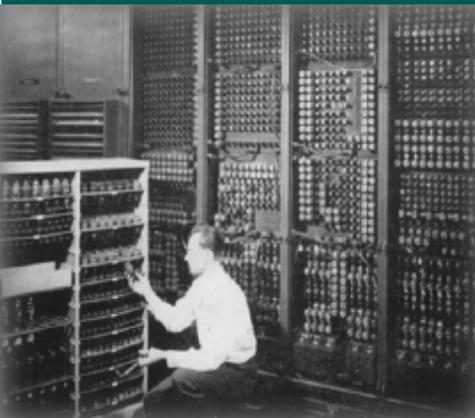
The latest webinar from the Virtual IMS user group was entitled, "How to use IMS log records to investigate transaction response time". It was presented by Loc Tran, Lead Software Developer at BMC Software.

Loc has been working with IMS since 1985. He was

a systems programmer at AT&T and GEICO. In 1996, he developed TMON for DBCTL and IMS for Landmark System. He joined BMC Software as a lead product developer in the Mainview for IMS group in 2002 until the present. He has enjoyed working with IMS and he has spent almost his entire working life with it. He always tries to

Contents:

Virtual IMS user group presentation	1
Meeting dates	3
IMS news	4
IMS articles and blogs	4
Sponsorship opportunity	5
About the Virtual IMS user group	5



```

OPTION COPY OFFSET=5,FLDTYP=X,VALUE=01,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=03,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=07,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=08,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=31,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=33,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=35,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=36,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=56FA,FLDLEN=2
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=59,FLDLEN=1
OPTION COPY OFFSET=5,FLDTYP=X,VALUE=FA,FLDLEN=1
//

```

Figure 2: An example to extract log records for Full-function and Fast Path transactions from a SLDS

create features in products he develops that IMS users need to do their job easier and better.

Loc Tran started his presentation by explaining why IMS writes log records. Firstly, it's for database recovery. It can be used to undo/redo database changes and for forward recovery. Secondly, it's for data communication recovery. It can be used to restore terminal status, restore queues, etc. And thirdly it provides statistical data for IMS usage and performance.

He went on to look at IMS log record components. The ILOG macro is shown in Figure 1. The components involved are:

- IMS Log Manager
- DFSFLLG0

- OLDS/SLDS
- DBRC/RECON.

The ILOGREC macro gives the log record DSECT.

The IMS DFSERA10 program has the ability to select certain IMS log records out of the SLDS by:

- Record type
- Value in log record offset
- Print/Copy
- By record sequence range.

An example to extract log records for Full-Function and Fast Path transactions from a SLDS using the IMS DFSERA10 program is shown in Figure 2.

It's important to be able to tie IMS log records to a

transaction. A transaction has multiple log records that signify the major events. The old method was to use the DRRN (Disk Relative Record Number). The new method is to use the UOW (Unit Of Work). This may be the IMSID and STCK, or the IMSID and a Recovery Token.

Looking at Full-Function log records, IMS can produce a X'56FA' statistical record for a transaction that's mapped by DSECT DFSETPCP. Or it can use DFSDFxxx of IMS PROCLIB. It uses TRANSTAT=y/n in the Diagnostics Statistics section for all transactions. The UPDATE command can also be used: UPDATE TRANDESC with TRANSTAT(). This is used for a specific transaction.

Log A Code	Type	Sequence No.	Timestamp	Time difference between records
01	input msg	00000001ACD48	2022.095 07:16:31.688893 +	.000000
35	msg enqueue	00000001ACD49	2022.095 07:16:31.688919 +	.000025
08	pgm start	00000001ACD4A	2022.095 07:16:31.689880 +	.000961
5607	recovery	00000001ACD4B	2022.095 07:16:31.689881 +	.000000
31	msg get	00000001ACD4C	2022.095 07:16:31.689900 +	.000019
03	output msg	00000001ACD4D	2022.095 07:16:31.700141 +	.010241
35	msg enqueue	00000001ACD4E	2022.095 07:16:31.700149 +	.000007
37	msg xfer	00000001ACD4F	2022.095 07:16:31.700155 +	.000006
37	msg xfer	00000001ACD50	2022.095 07:16:31.700161 +	.000005
33	msg free	00000001ACD51	2022.095 07:16:31.700171 +	.000010
5612	recovery	00000001ACD52	2022.095 07:16:31.700371 +	.000200
5607	recovery	00000001ACD53	2022.095 07:16:31.700371 +	.000000
31	msg get	00000001ACD54	2022.095 07:16:31.700385 +	.000013
FA	Mainview	00000001ACD55	2022.095 07:16:31.700416 +	.000030
03	output msg	00000001ACD56	2022.095 07:16:31.700550 +	.000133
35	msg enqueue	00000001ACD57	2022.095 07:16:31.700555 +	.000004
37	msg xfer	00000001ACD58	2022.095 07:16:31.700558 +	.000003
37	msg xfer	00000001ACD59	2022.095 07:16:31.700562 +	.000003
33	msg free	00000001ACD5A	2022.095 07:16:31.700566 +	.000004
5612	recovery	00000001ACD5B	2022.095 07:16:31.700775 +	.000208
5607	recovery	00000001ACD5C	2022.095 07:16:31.700775 +	.000000
31	msg get	00000001ACD5D	2022.095 07:16:31.700779 +	.000004
FA	Mainview	00000001ACD5E	2022.095 07:16:31.700790 +	.000010

Figure 3: Message switch log record

It's not uncommon for one transaction to switch to two new transactions. This produces a message switch log record (see Figure 3).

Fast Path log records are shown in Figure 4.

Loc went on to list log record macros, for reference. They are:

- 01 – QLOGMSGP
- 03 – QLOGMSGP
- 07 – DFSLOG07
- 08 – DFSLOG08
- 31 – QLOGGETU

- 33 – QLOGFREE
- 35 – QLOGENQU
- 56 – DFSETPCP
- 5901 – DBFLGRIM
- 5903 – DBFLGROM
- 5936 – DBFLGRDQ
- 5937 - DBFLGSYN

And, lastly, Loc Tran demonstrated all the things that he had been talking about.

A copy of Loc Tran's presentation is available for download from the Virtual IMS user group

website at itech-ed.com/virtualims/presentations/IMSresponsetimeApr22.pdf.

You can see and hear the whole user group meeting at <https://youtu.be/cUWiyra0I7s>.

Meeting dates

The following meeting dates have been arranged for the Virtual IMS user group:

- On 14 June, Haley Fung, IBM Product Manager for IMS and Ansible for Z, will be telling us more about Ansible.

Log A Code	Type	Sequence No.	Timestamp	Time difference between records
5901	FP inpt msg	00000001AC189	2022.090 06:35:52.659750 +	.000000
5903	FP out msg	00000001AC18A	2022.090 06:35:52.659751 +	.000000
5950	FP DB upd	00000001AC18B	2022.090 06:35:52.659753 +	.000002
5950	FP DB upd	00000001AC18C	2022.090 06:35:52.659754 +	.000000
5937	FP syncpnt	00000001AC18D	2022.090 06:35:52.659809 +	.000055
5936	FP msg deq	00000001AC18F	2022.090 06:35:52.660321 +	.000511
5612	recovery	00000001AC190	2022.090 06:35:52.660533 +	.000211
FA	Mainview	00000001AC1AF	2022.090 06:36:00.369868 +	7.709335

***** Bottom of Data *****

Figure 4: Fast Path log records – X'59xx'

- The following meeting will be on 9 August, when James Martin, Senior Solution Advisor at Rocket Software, will be presenting.

IMS news

For sites using IMS APIs, Adaptigent has launched its Intelligent Caching engine, which is a distributed, in-memory, data cache designed to reduce mainframe integration load and costs, while reducing API response times by up to 50 times for mission-critical data and transaction calls.

The technology can pre-load highly cacheable data during periods when mainframe demand is relatively low,

allowing customers to offload mainframe processing when demand is high. The Intelligent Caching engine also supports partial caching, in which a single API request has cacheable and non-cacheable data elements to it. The engine can pull data from the cache and combine it with live data to fulfil the API request.

The caching engine uses workflows, allowing users to set caching policies for individual mainframe transactions. This adds a layer of intelligence to the caching approach.

More information can be found at: <https://www.adaptigent.com/products/intelligent-caching-engine/>

IMS articles and blogs

Can IMS Connect to the Outside World? by Trevor Eddolls on TechChannel (21 April 2022). You can find the article at: <https://techchannel.com/Enterprise/04/2022/ims-connect-outside-world>

IMS and JVM streaming via OMEGAMON Data Provider now available by James Porell in the IMS part of the IBM Z and LinuxONE Community (16 March 2022). You can find the article at: <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/james-porell1/2022/03/16/ims-and-jvm-streaming-via-odp-now-available>

Is your IMS restart taking too long? Could it be hung?

by Michelle Carey in the IMS part of the IBM Z and LinuxONE Community (4 March 2022). You can find the article at: <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/michelle-carey1/2022/03/04/ims-restart-enhancement>

Go ahead. Be picky! Import only the DBDs and PSBs that you want by Michelle Carey in the IMS part of the IBM Z and LinuxONE Community (4 March 2022). You can find the article at: <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/michelle-carey1/2022/03/04/import-cmd-dbds-and-psbs-name-option>

IMS 15 Managed ACB Enhancement: OPTION(NOCHECK) to IMPORT DEFN SOURCE(CATALOG) by Michelle Carey in the IMS part of the IBM Z and LinuxONE Community (2 March 2022). You can find the article at: <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/michelle-carey1/2022/03/02/ims-15-managed-acb-nocheck-option>

Sponsorship opportunity

From June onwards, Rocket Software has decided to focus its budget on other areas and withdraw sponsorship from the Virtual IMS user group.

The user group has been in existence since 2007 and is well-respected among users of IMS. The user group gives its sponsors an opportunity to show that they are working with, and helping to build, the user community.

Currently, the user group meets six times a year with a presentation filling most of the meeting. In the other months, members receive a newsletter. And there is a Facebook page, a Twitter feed, and a LinkedIn group keeping members up-to-date with information about new products or product updates, and articles about IMS.

So, from June, co-sponsorship is available for the user group, and without sponsorship, the user group may not be able to continue.

If you work for a software vendor and can see the benefits of sponsorship, please contact me (trevor@itech-ed.com) for a without prejudice conversation.

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 <https://itech-ed.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.