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.
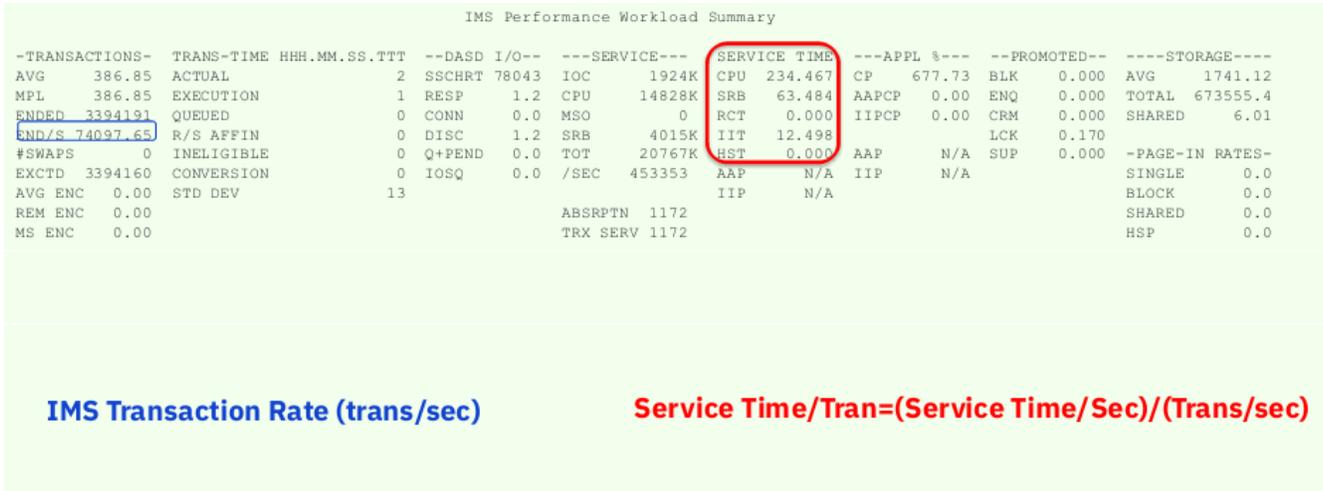

Figure 1: RMF Monitor III Workload Activity Report

Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "Performance and IMS". It was presented by James Martin, Senior Solution Advisor at Rocket Software.

James Martin is a Senior Solutions Advisor for Rocket Software, and an IBM Preferred Development Business Partner. He's been working with the IBM IMS Performance Tools for 13 years. His work history includes: 3 years with IBM working as a Client Technical

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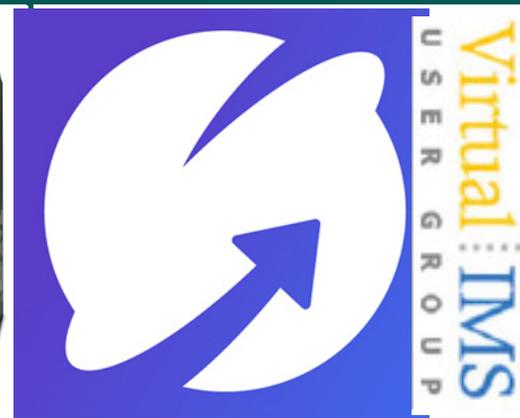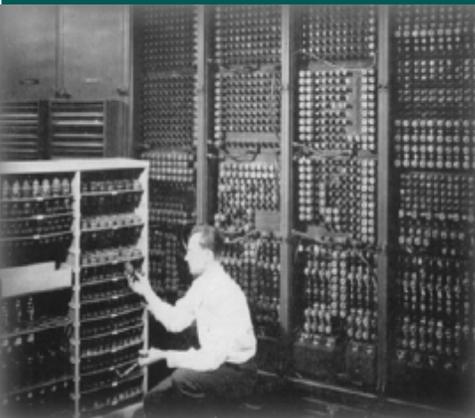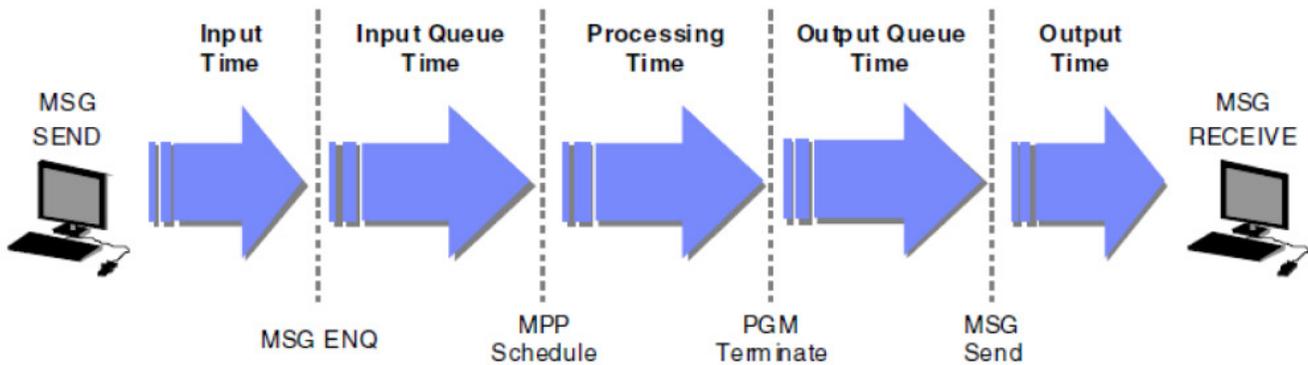
Figure 2: Five parts of transaction flow

Professional in the IMS Tools space and 10 years at Fundi Software working in a Technical Sales/Support and Software testing role. As an IBM CTP for North America, he travelled to various customer locations supporting and promoting IBM IMS tools and spoke at a wide variety of conferences and user groups. He is an ASTQB Certified Tester and has held various testing roles including a 2-year stint as the Test Lead for IMS Problem Investigator product. In his current role as a Senior Solutions Advisor, James travels to various conferences and customers in North America, South America, Europe, Asia, and Australia for speaking engagements and Product Technical Support. James is also one of the IMS Project Managers for the SHARE Technology Conference.

James started his presentation by reminding the group that IMS is processing 265 billion transactions per day, more than 3 million transactions per second, for enterprises around the world.

He went on to say that when it comes to performance analysis tools, the most commonly used ones were RMF and IMS Performance Analyzer. There are other IBM tools available:

- Application Performance Analyzer (APA)

- Hardware Instrumentation Services (HIS)

- IMS Monitor

- Health Center

- IMS Problem Investigator (PI) *

- IMS Connect Extensions

- Omegamon XE for IMS

- IMS Buffer Pool Analyzer

- Transaction Analysis Workbench for z/OS.

Data that's useful when debugging performance problems includes:

- SMF Records
  - SMF 70-79 always
  - Plus SMF 88 if using shared queues
  - SMF 98 if enabled (new HFTS function in z/OS 2.2)
- IMS Log Records
- Monitor Data
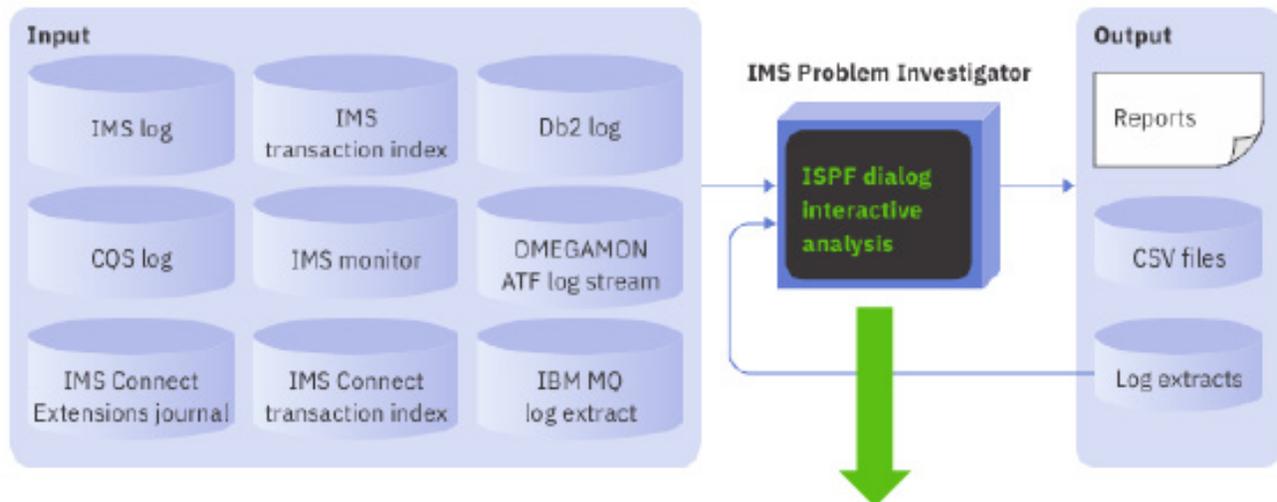
Figure 3: IMS Problem Investigator

- Dumps

- External Trace

- GTF Trace.

Having data from both a good and a bad (problem) period is very useful to help to see what is different.

We need to be able to look at data from RMF's viewpoint by analysing CPU, Subchannel Activity, Coupling Facility, and Serialization Delay reports (see Figure 1) James Martin then ran through examples of each.

It's also useful to look at data from IMS Performance Analyzer. The most useful reports are:

- Log Info Report

- Transit Analysis

- Distributions and Service Levels

- Analyzing Message Queue pools

- BMP Checkpoint analysis

- Syncpoint affect on Response.

Figure 2 shows how IMS PA can analyse transaction response times by looking at the five parts of transaction flow. James looked in some detail at the reports and the information that can be found in them.

Looking at data from IMS Problem Investigator helps analyse instrumentation data. Figure 3 illustrates how this works. It can show sudden jumps in elapsed or relative times, which may indicate a problem.

IMS Connect Extensions feed (see Figure 4) provides a near real time data feed of IMS Connect transaction activity in summary form. The feed uses the IMS Connect Extensions Publisher API. It processes event records from the IMS Connect Extensions Publisher API using the same process that is found in IMS Performance Analyzer to produce IMS Connect transaction index records (also known as CA20 records). Using this information, it's possible to chart the data in analytics platforms. There's a Splunk sample application at https://splunkbase.splunk.com/app/4320/. This charting can be achieved by forwarding the data as JSON Lines, or using SMF (Common Data Provider). It's also possible
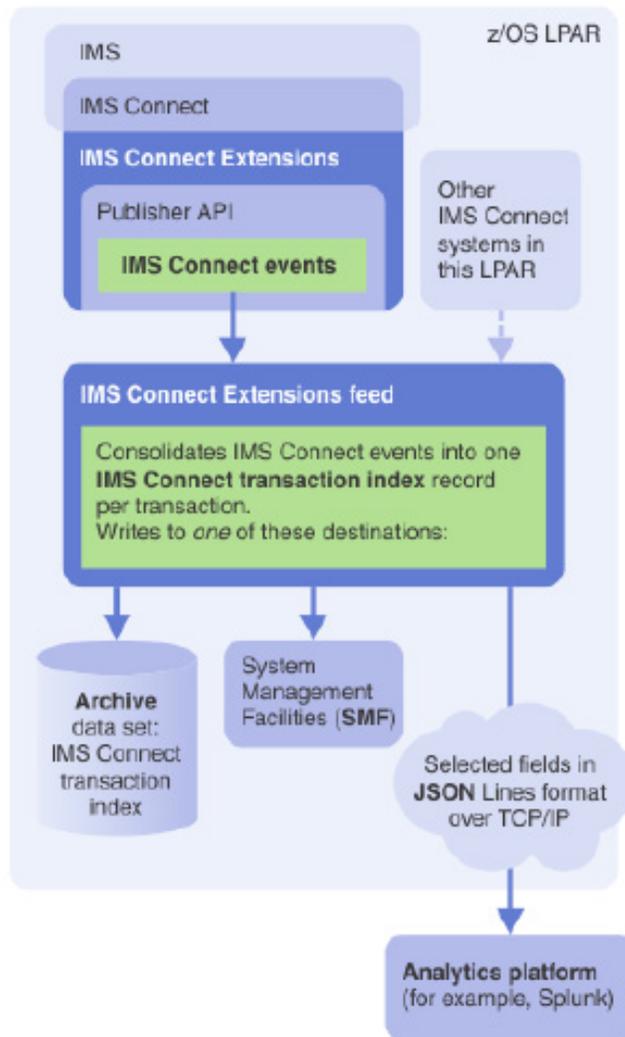
Figure 4: IMS Connect Extensions feed

to use the IMS Connect transaction index with IMS Performance Analyzer, IMS Problem Investigator, or IBM Transaction Analysis Workbench.

James showed some examples of the graphs that could be produced. Firstly, he showed an IMS Connect transaction analysis sample Splunk application overview dashboard, and then an

IMS Connect transaction analysis sample Splunk application input, OTMA, and output elapsed time for each tmember.

A copy of James Martin's presentation is available for download from the Virtual IMS user group Web site at itech-ed.com/ virtualims/presentations/ IMSPerformanceDec20.pdf.

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

Meeting dates

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

- On 9 February 2021, Nick R Griffin, WorldWide IMS Specialist at BMC Software will be discussing "Reached the IMS Database 4/8gig line, Now What?".

- The following meeting will be on 13 April, when Thomas Esser, zSolutions Architect, Director, IMS Solution Advisors, Rocket Software will be discussing "Saving CPU time with IMS database administration".

IMS articles and blogs

Farewell to the IMS DevCenter by Greg Summers in the IMS part of the IBM Z and LinuxONE Community (10 November 2020). You can find the article at https://community. ibm.com/community/user/ ibmz-and-linuxone/blogs/ greg-summers1/2020/11/09/ farewell-ims-devcenter

Our website is:

itech-ed.com/virtualims

IMS Transaction Manager Advancements for 2020 by Sanjay Kaliyur, Tom Morrison, and Jack Yuan in IBM Systems Magazine (17 November 2020). You can find the article at https://ibmsystemsmag. com/IBM-Z/11/2020/ ims-transaction-manager-advancements

How to Build an IMS Database Control System (DBCTL) by Michelle Carey on z Systems Developer Community (3 November 2020). You can find the article at https:// developer.ibm.com/ zsystems/2020/07/02/ims-support-for-z-os-workload-interaction-correlator/

IMS news

With 87% of all credit card transactions being processed on a mainframe (according to IBM) and most of those being processed by IMS, it's important to know that the PCI Security Standards Council and the ATM Industry Association have issued a joint bulletin to highlight a threat called an ATM cash-out attack. This attack involves criminals breaching a bank or payment card processor and manipulating fraud detection controls as well as altering customer accounts so there are no limits to money withdrawals from numerous ATMs in a short period of time. It seems that criminals often manipulate balances and withdrawal limits to allow ATM withdrawals until ATM machines are empty of cash. One of the recommendations is to install file integrity monitoring software. You can read the joint bulletin at https://www. pcisecuritystandards.org/ pdfs/PCI_ATMIA_ATM_ Cashout_Bulletin.pdf.

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.