

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.

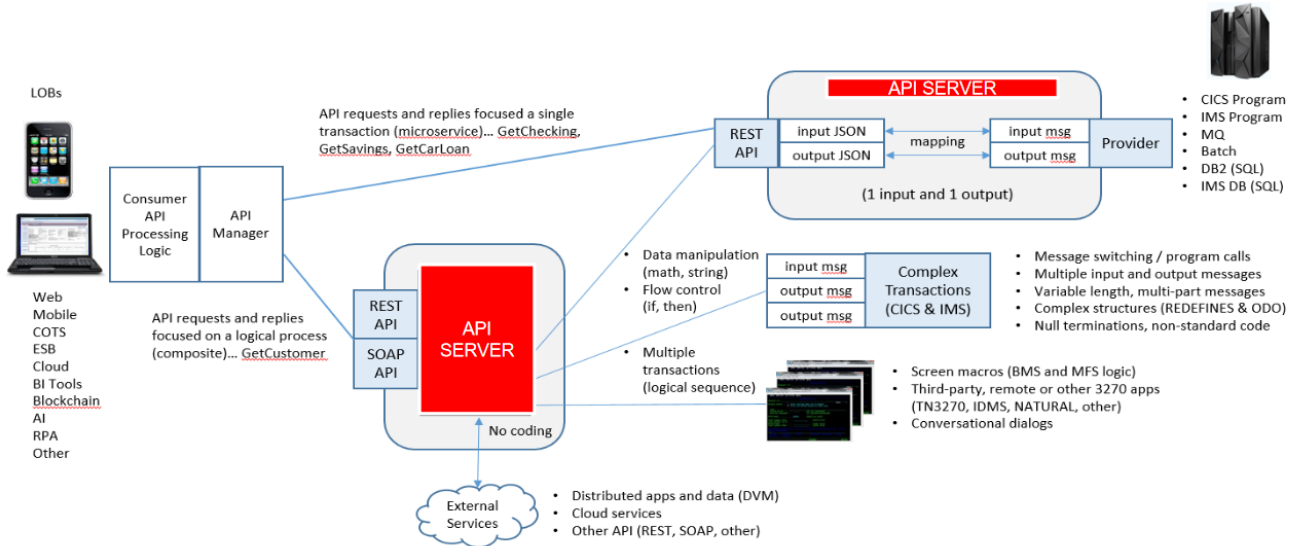


Figure 1: Mainframe APIs: understanding legacy environments and integration requirements

Virtual IMS user group presentation

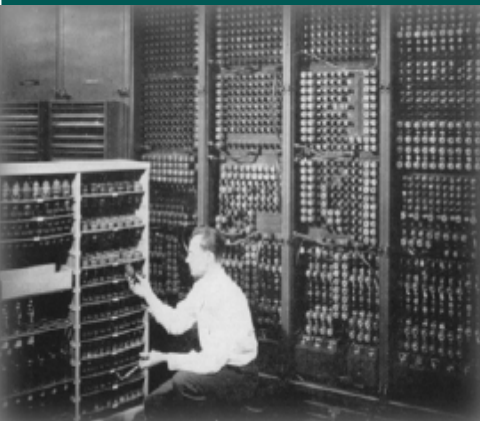
The latest webinar from the Virtual IMS user group was entitled, "Mainframe Systems (IMS, CICS, etc) As Clients in the New World". It was presented by Dusty Rivers, Senior Director, US Systems

Z at Mainline Information Systems.

Dusty is a well-known speaker at global events dealing with mainframe (IMS) integrations and architecture. He is an IBM Lifetime Champion for Z, and member of the program council IMGT

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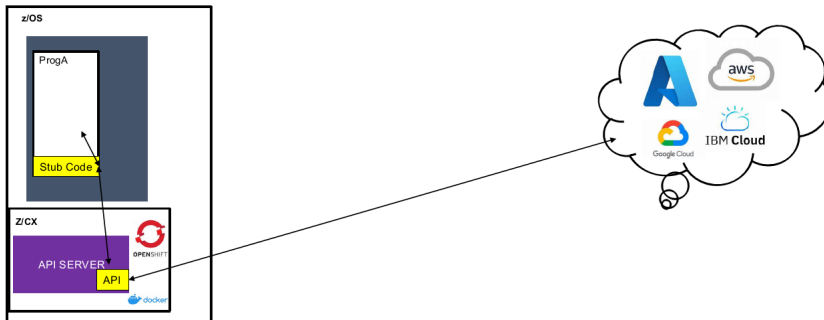


Figure 2: Callable (outbound services)

at SHARE. He has over 45 years' experience in IMS and mainframe systems.

Dusty Rivers started his presentation by saying that in his view, the mainframe was the most modern system available today. His idea of mainframe modernization has nothing to do with moving off the mainframe. He planned to talk about using APIs to make data more accessible to the business; or how APIs could be used to connect to modern programming languages; or even how microservices could be combined into a new application.

For Dusty, mainframe modernization involved the following:

- Modernize the look and feel

- Make the data more accessible
- Make the business logic accessible to new applications
- Use more modern programming languages.

Mainframes need to:

- Quickly expose complex business processes to new applications
- Integrate with new technology
- Callout to off-platform applications
- Migrate applications/data off mainframe (cloud).

Figure 1 illustrates mainframe APIs in order to help understand legacy environments and integration requirements.

What are callable services? They provide access to external services through COBOL or PL/I calls. The call uses a procedural application programming interface (API). It shields the COBOL or PL/I programmer from knowing XML/REST etc. It was used before APIs became a popular Web/Restful Service term.

What's needed is a callable service interface (call) for COBOL or PL/I to be generated. It needs to process all TCP/IP services for the target service. And it needs dynamic marshalling/parsing of all XML and/or JSON (ASCII-EBCDIC).

The called or outbound service needs to locate the service to call, import message formats, generate COBOL and PL/I stub code,

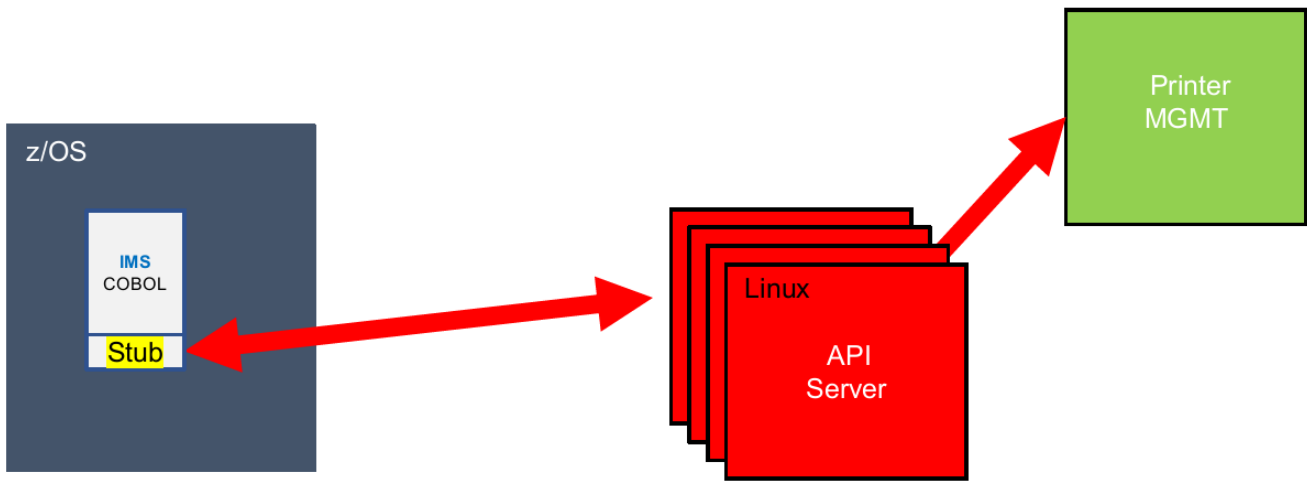


Figure 3: Case study 4: Airline solution

provide an intermediary server, incorporate logic with the stub code, and deploy and test.

Figure 2 gives one example of how to configure callable outbound services.

Dusty said that he would focus on accessing external services using COBOL or PL/I. This involves real-time calls and doesn't involve learning a new programming language, just using APIs.

Sites are using APIs to call out, and are expecting an answer back. Programmers need to generate the necessary COBOL or PL/I stub codes necessary for the IMS application to call the distributed service. That needs to link to some API server that will handle all the work of calling out, passing control, doing the data marshalling, and looking after the TCP aspects.

Dusty then moved on to some real examples.

The first example was a large Swiss bank that needed to rapidly implement the ability to verify the status of a new customer (ie were they a terrorist, money launderer, or some other criminal) against a checking system. They needed a uniform set of API calls that could be initiated from an IMS PL/I program in the core banking system.

The bank developed APIs (using SOAP and REST) without writing any code at both the integration layer and on the mainframe. They also made the APIs accessible to all systems within the bank.

The second example was a national testing/certification service that almost failed a PCI audit. They needed to change the way they authorized credit transactions and needed real-time calls

to authorize payments.

They also needed to get Geocode data to their IDMS/DC and CICS applications to provide information on testing centre locations. Their solution came with minimal changes to the existing applications while providing new functionality to both applications.

The third case study was a major multi-national French bank that was struggling with how their mainframe systems could be used with third-party applications to process payments, detect fraud, and comply with KYC (Know Your Customer) guidelines – all in real time. They were using IMS COBOL and PL/I applications. Using a bi-directional API, they could connect to FIS's Clear-2-Pay system and provide instant payments. Using a drag-and-drop interface, they achieved this in less than two months.

In Dusty's fourth example, a merger of two airlines and regulatory requirements meant the company needed to rapidly unify multiple aircraft maintenance and parts inventory systems. They also found that their printer management system was Windows based and their IMS COBOL applications needed to communicate with it. This, they successfully achieved. Their solution is illustrated in Figure 3.

The final example was a major US-based food supplier that needed to be able to provide visibility into their mainframe business systems across lines of business. They also needed to provide a uniform order tracking system and the ability to reflect order information, inventory, and logistics into SAP. They were able to rapidly generate a unified set of APIs connecting to multiple mainframe systems. They also built the necessary components for their CICS COBOL applications to call out to SAP to post real-time updates on order and inventory.

A copy of Dusty Rivers' presentation is available for download from the Virtual IMS user group website at: <https://itech-ed.com/virtualims/presentations/IMSClientsApr23.pdf>

You can see and hear the whole user group meeting at: <https://youtu.be/4DSDNfZfq3E>

Meeting dates

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

- On 6 June, James Martin, Senior zSolutions Advisor, System Z, at Rocket Software, will be discussing "Simplifying IMS performance problem identification and determination".
- The following meeting will be on 8 August, when Tracy Dean, Product Manager, IMS Tools and z/VM Tools, IBM Z Software, will be discussing, "What does IBM Z Cyber Vault mean for an IMS environment".

IMS articles and blogs

Moving to OSAM encryption: the easy way to get more IMS database security by Paul Gandolfo in the IMS part of the IBM Z and LinuxONE Community (7 March 2023). You can find the article at: <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/paul-gandolfo/2023/03/07/osamldsencryption>

Avoiding downtime, bottlenecks, and other dramas with better IMS Connect workload routing by Adam Limbert in the IMS part of the IBM Z and LinuxONE Community (3 March 2023). You can find the article at: <https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/adam-limbert/2023/03/03/avoiding-downtime-bottlenecks-and-other-dramas-wit>

Sponsorship opportunity

Currently, co-sponsorship is available for the user group. Please contact me (trevor@itech-ed.com).

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.