Virtual IMS user group: Newsletter 69

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, “IMS APIs... You Don’t Know, What You Don’t Know”. It was presented by Dusty Rivers, Director, z Systems Software: IMS & CICS at GT Software.

Dusty has an extensive 40-year background in global mainframe systems integration, and has been recognized as an IBM Champion for Information Management for ten years in a row for his leadership and contributions to the Information Management community. His expertise focuses on enabling global organizations to extend the use of their mainframe systems into the world of Web services, clouds, and

Figure 1: Lessons learned, war stories, successes

all distributed systems. An engaging speaker, Dusty travels the United States presenting on various topics in leveraging IMS for modern technologies.

Dusty Rivers started the session by saying that often when he talked to potential customers about using IMS

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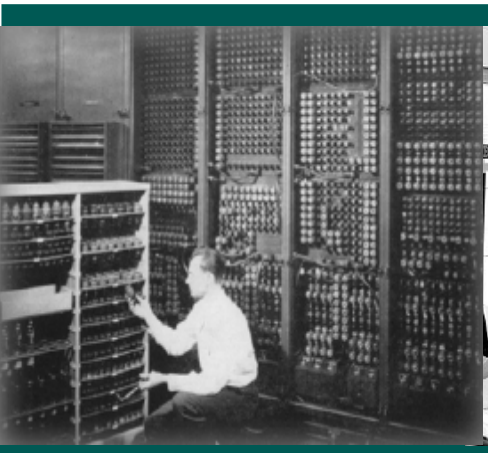

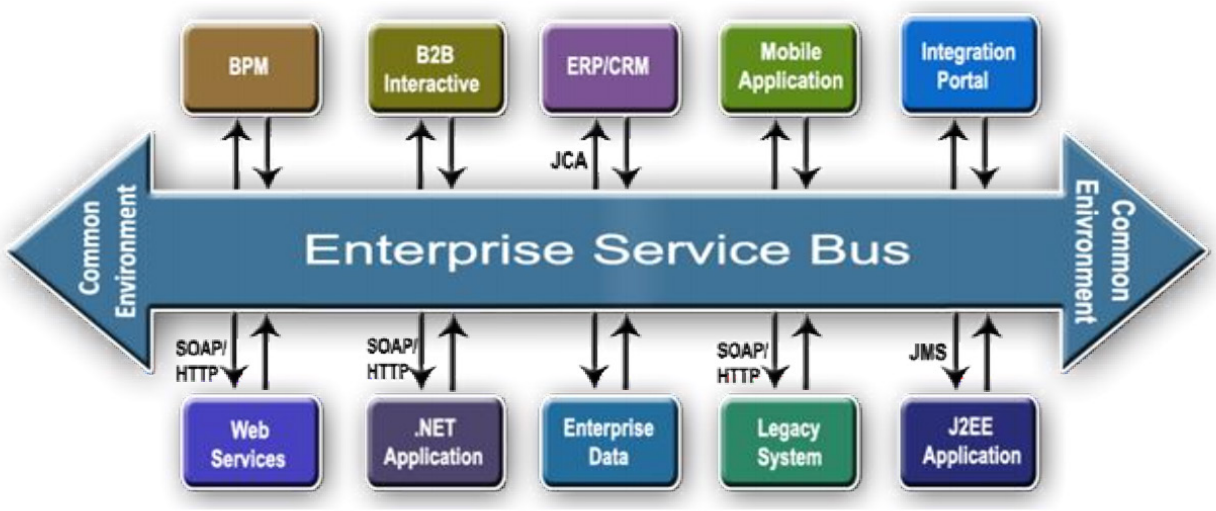

Figure 2: Enterprise Service Bus

APIs, they generally thought that they were already doing that. Dusty suggested that, like learning to ride a bike, using APIs involved getting things wrong (ie falling off the bike) a few times before getting it right (see Figure 1).

Many sites felt that they were making the most of APIs because they had an Enterprise Service Bus that they used to connect different parts of their enterprise (see Figure 2).

Once sites became aware that they won't doing all they could, then they would ask what else they didn't know. Dusty then had a number of questions for them to answer about whether they had the right mainframe integration technologies. Here are his questions:

- How old are your legacy backend applications?
- What technologies are they using?
- Is the application code structured or unstructured?
- Did your core applications first start out as commercial offerings?
- What third-party components are embedded in the code?
- How complex is the code and data structure design?
- Do your support teams fully understand the application?
- How many coding 'standards' have been used over the past years?

Dusty Rivers then gave us some thoughts about understanding your legacy applications and API requirements

- Most mainframe online applications were designed to interact with 3270 terminals (end user dialog).
- Integration technologies should be transparent to the backend systems.
- Changing legacy code to work better as an API introduces more complexity and code to manage.
- Fine grain APIs (microservices) may be easier to build, but put more work onto the consumer.

Figure 3: Legacy mainframe apps

- The more intelligent the API, the less effort for the API consumer processing logic.
- Legacy mainframe apps are like a box of chocolates, it is hard to see what's inside (see Figure 3).

Legacy application complexities can include:

- Message switching / multiple program calls
- Multiple input and output messages
- Variable length, multi-part messages, different layouts
- Complex structures (REDEFINES and ODO – Occurs Depending On)
- Null terminations, non-standard code
- Screen macros
- Conversational dialogs
- External and other 3270 applications
- Complex conversational transactions.

Your IMS transaction could be talking to the Web, mobile, COTS (commercial off-the-shelf) products, Cloud, ESB, BI tools, Blockchain, AI, RPA (robot process automation), and others.

To enable that, requires consumer API processing logic and an API manager. There will be REST APIs and SOAP APIs. And, as well as IMS, the environment may include some or all of: Github (source version control); Jenkins (automation); .NET, Java, Node.js, COBOL; Linux (Red Hat) JBOSS; Tomcat (HTTP Web server environment); MoogSoft (AI platform for IT operations); dynatrace (application performance management, artificial intelligence for operations, cloud infrastructure monitoring, and digital experience management); and UrbanCode (DevOps approach to orchestrate, automate and deploy applications, middleware and database changes into development, test and production environments).

Dusty then looked at design methodology. You can use base services, which are closely matched to individual transactions when possible. Or you can use composite services with combined calling of multiple base services for a business service. And you can have outbound calls to third-party software from COBOL.

When it comes to a financial example, and to illustrate the surprising complexity, Dusty knew of companies with links from IMS systems of record to:

- Instant Payment (Europe)
- Outbound calls to Google resources
- Outbound calls to Credit resources

- Outbound calls to Account Control Website
- Outbound calls to Terrorist Check sites
- Inbound API calls to existing IMS transactions with no code change
- ATM system inbound APIs (SOAP then REST).

Dusty showed some more examples linked to GT Software's Ivory Suite.

He also discussed Zowe, and how that project is using APIs to allow non-mainframe people to use open source tools to work in a mainframe environment.

He then looked at some lessons learned working with APIs, for example how to deal with null termination (x'3F') and a null terminator (x'00').

The computing environment is evolving all the time and some mainframe applications were written a long time ago for a completely different environment. Even so, using the right tools, it can be a fairly straightforward process to make the most of the API economy.

A copy of Dusty River's presentation is available for download from the Virtual IMS user group Web site at fundi.com/virtualims/presentations/IMSAPIAug19.pdf.

You can see and hear the whole user group meeting at https://youtu.be/RgNkFnMe4Ds.

Meeting dates

- On 8 October 2019, James Wilson, Product Developer at BMC Software, will be discussing "Managing IMS Object Changes".
- The following meeting will be on 3 December when Allen Saurette, Security Advisor, MainTegrity Inc, will be speaking.

Recent IMS articles

New Zowe Enhancements Add DevOps Value to IBM IMS by Haley Fung on z Systems Developer Community (16 August 2019). You can find the article at https://developer.ibm.com/zsystems/2019/08/16/new-zowe-enhancements-add-devops-value-to-ibm-ims/

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.

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.