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.

Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "4 Paths to Digital Transformation in IMS". It was presented by Haley Fung, IBM Offering Manager for IMS.

Haley is the IBM Offering Manager for IMS and specializes in API, Java, and DevOps. She drives product direction in building solutions for enterprise modernization and integration for IMS. Haley is a frequent presenter at global technical conferences. Her deep technical expertise and her passion and dedication for customers have helped many IMS customers to modernize and enhance their application infrastructures.
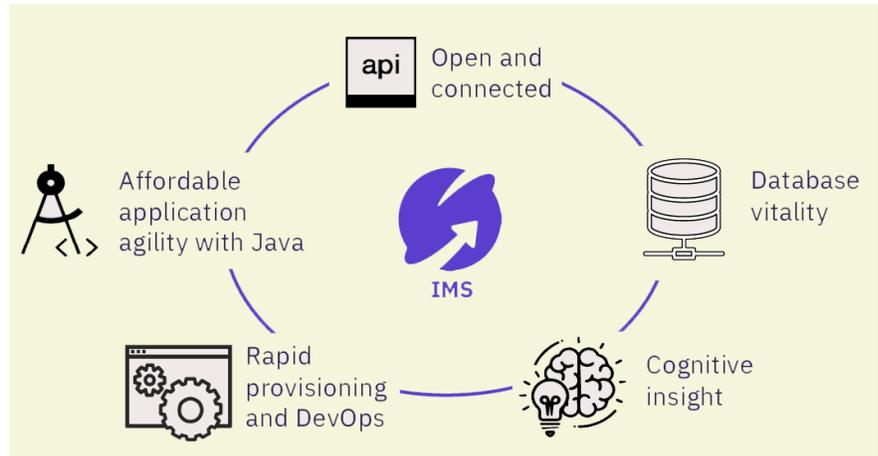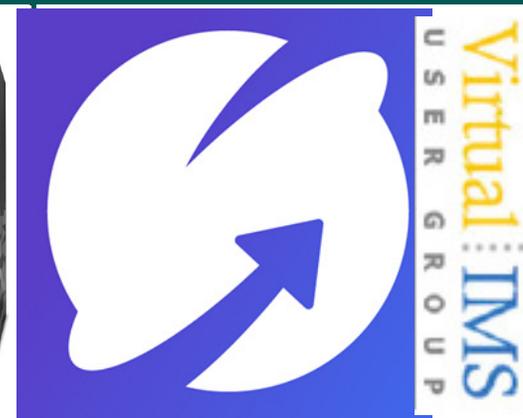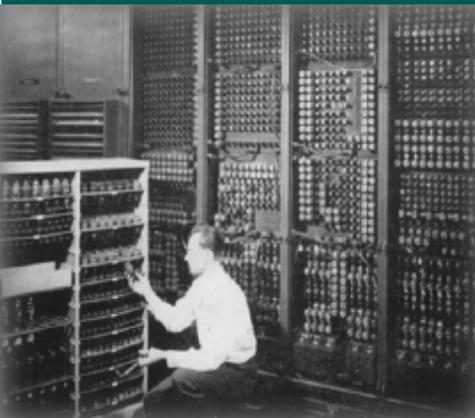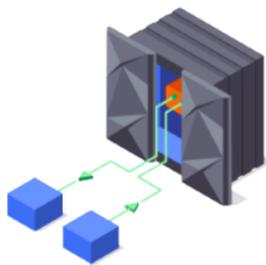

Figure 1: IMS in a connected mainframe world

Haley started her presentation by suggesting that IMS users should embrace change and Figure 1 shows IMS as part of a mainframe connected world.

The four common IMS modernization patterns that Haley identified were APIs, Java, Open Database, and DevOps and Cloud.
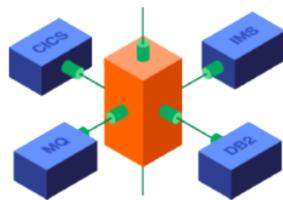
Contents:

APIs to and from the mainframe   Comprehensive subsystem support   Point-and-click API creation

Figure 2: Truly RESTful APIs to and from your mainframe

Using APIs you can provide open access to IMS data and transactions and you can create RESTful APIs from your IMS transaction assets. You can then harness new opportunities with your growing API portfolio. This allows you to maximize opportunities by connecting IMS on-prem assets to the Cloud. And, by so doing, you can convert IMS from a cost centre to a revenue centre.

Figure 2 shows truly RESTful APIs to and from a mainframe for building microservices and succeeding in the API economy. Users can call external APIs from their mainframe applications, or expose those applications as easily consumable RESTful APIs with OpenAPI descriptions. You can have an API to an IMS transaction, or an API to IMS data, which is new, or IMS applications

can connect to an external API.

z/OS Connect Enterprise Edition can expose IMS and z/OS assets as RESTful APIs without writing any code. It can also access IMS data. The API toolkit is designed to encourage RESTful API design. Once you define your API, you can map backend services to each request. Your services are represented by .sar files, which you import into the API toolkit. Your IMS assets are discoverable as Swagger docs served from z/OS Connect EE. You can test your deployed APIs directly with the Swagger UI inside the editor.

The reasons for thinking seriously about Java (the second modernization method) and IMS are that modern languages, tooling, and frameworks

improve application developer productivity and shrink time-to-value. Using Java leverages the 14 million Java developers worldwide to keep trusted IMS applications thriving. It reduces the time, MIPs, and stress with cloud-hosted development and testing. And Java in IMS has been available for over 15 years. It is a proven production ready solution for your enterprise.

As Figure 3 illustrates, Java can run in IMS dependent regions. CICS Java applications can access IMS data. The Java EE server on z can access IMS.

Users can extend their existing IMS applications with Java. They can leverage Java in their existing COBOL applications. They can convert heavy CPU consuming routines to Java. And they can transition
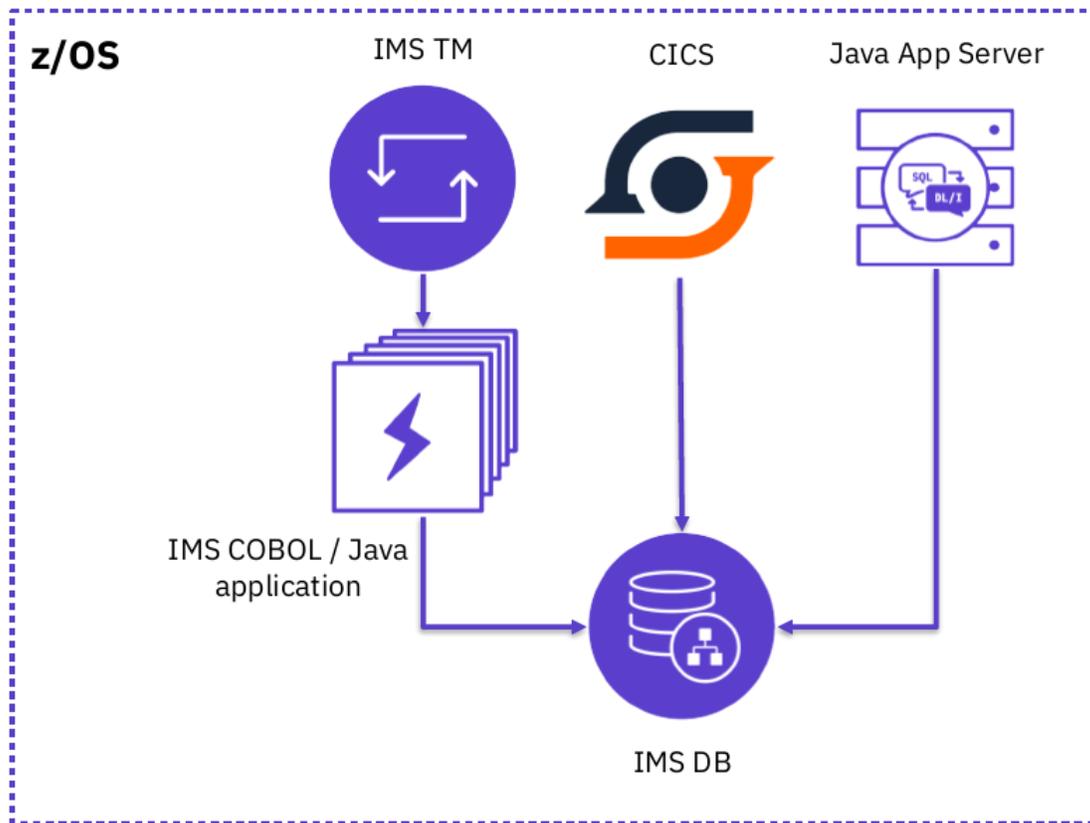
Figure 3: Java on Z with IMS

development from COBOL to Java. Users can write new applications in Java or convert old IMS ones. Pacing most of the business logic in Java allows for better offload and easier maintenance.

Modernization method 3 was to use an Open Database solution. This makes your IMS data more accessible. You get instant data access with reduced latency and the elimination of ETL. IMS data is a key data source for Analytics platforms.

Figure 4 show direct database access from Java

clients running in IMS or distributed platforms using SQL(JDBC) or DL/I calls. IMS supports SQL for both data access and data manipulation. As of IMS 14, IMS also supports DDL for data definition and data administration. IMS JDBC drivers plus common JDBC tooling makes IMS a key data source for Analytics platforms like Spark or IBM Db2 Analytics Accelerator.

Moving on to the fourth area of data transformation, Haley said that users can integrate z/OS into a hybrid multi-cloud

architecture powered by market leading development and management solutions. It will empower development squads to self-provision z/OS runtimes and databases that support their apps and data. With Enterprise DevOps, users can deliver solutions with confidence through a fully-integrated enterprise CI/CD (continuous integration/continuous deployment) pipeline embracing open source tools. Shift-left operations means sites can act on intelligent, operational feedback available from development to production
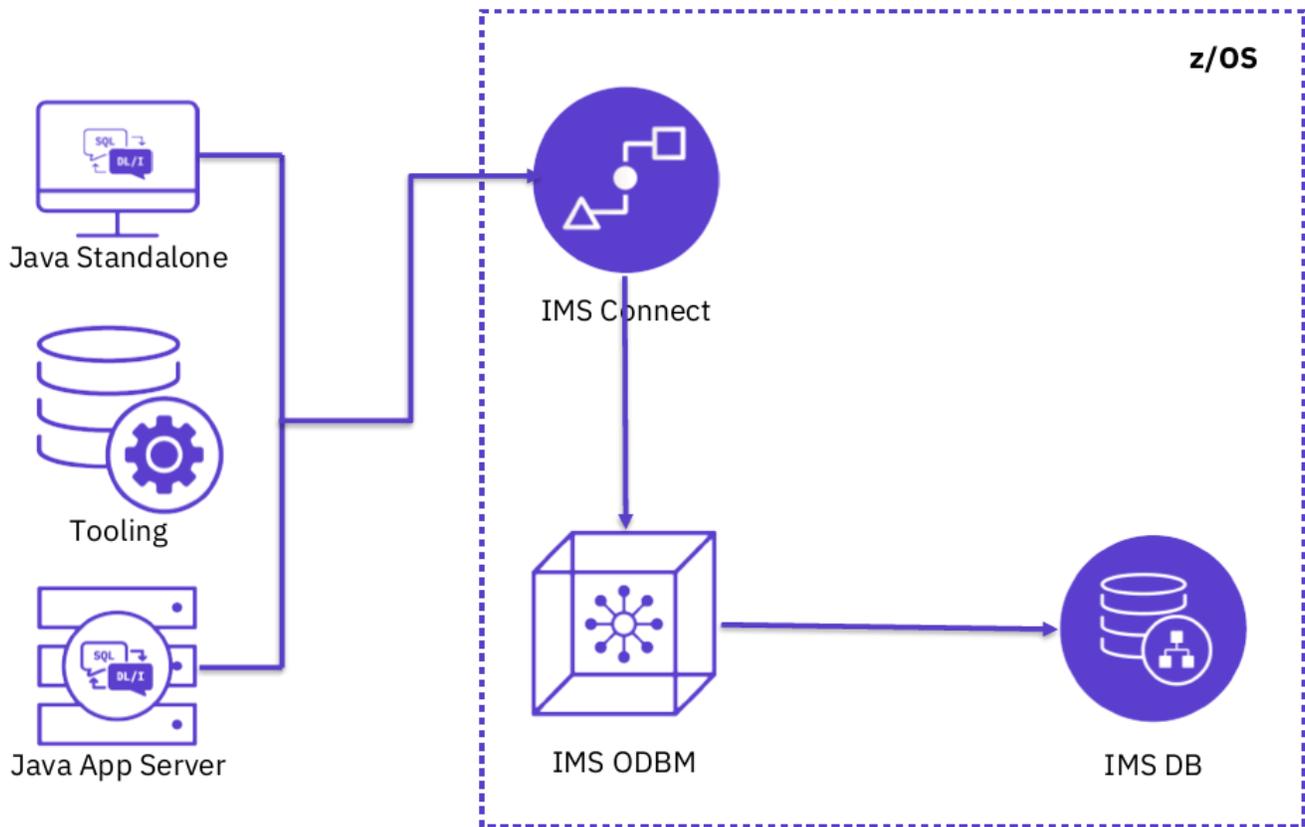
Figure 4: Distributed Java access to IMS

based on variations in system behaviour.

IBM Wazi for Red Hat CodeReady Workspaces (an add-on to IBM Cloud Pak for Application) lets users develop hybrid applications spanning IBM Z and multi-cloud platforms using a standard DevOps toolchain. It reduces the need for specialized skills and improves productivity with cloud-native tools. It reduces costs with an enterprise-wide standard toolchain. And it increases speed and agility with a

containerized development and test environment. Users can work on the Integrated Development Environment (IDE) that they are familiar with, eg Red Hat® CodeReady Workspaces, Eclipse, Eclipse Che®, or Microsoft® Visual Studio™ Code.

Red Hat Ansible Automation Platform is the enterprise framework for Ansible that enables a common approach to hybrid applications and infrastructure management. Red Hat Ansible Certified Content for IBM Z is a set of

collections that accelerate the use of Ansible with IBM Z. There is a z/OS IMS collection – Ibm.ibm_zos_ims collection.

z/OS Cloud Broker is an offering that gives users the ability to access and deploy z/OS resources and services on Red Hat OpenShift for a seamless and universal cloud development experience. It brings z/OS runtimes to the OpenShift catalog.

Zowe can be used with IMS. It provides scriptable CLI and RESTful APIs to manage

IMS system and resources. For example, you can create, update, and deploy IMS applications using modern scripting and tooling. You can use API or CLI commands to start/stop/query region, transaction, and program resources. And you can build integrated DevOps pipelines for IMS application delivery with open source or any widely-adopted DevOps tools.

A copy of Haley Fung's presentation is available for download from the Virtual IMS user group Web site at itech-ed.com/virtualims/presentations/IMS4pathsJun20.pdf.

You can see and hear the whole user group meeting at https://youtu.be/KMHLqfSst1A.

Meeting dates

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

• On 11 August 2020, Nick Griffin, Product Manager for Mainframe IMS at BMC Software will be discussing "Implement IMS Analytics for Better Business Outcomes".

• The following meeting will be on 6 October 2020, when Dusty Rivers,

Director, z Systems Software: IMS & CICS at GT Software will be speaking.

IMS news

Advanced Software Products Group (ASPG, Inc.) has announced MegaCryption 6.5.0, its cryptography toolkit specifically designed for z/OS environments, which provides organizations with encryption, decryption, compression, and file management capabilities. The addition of IMS cryptography provides IMS users with robust cryptography that will appropriately protect mainframe database services containing classified or sensitive information. MegaCryption's capabilities satisfy both industry and federal data security compliance policies.

More information can be found at http://aspg.com/megacryption-6-5-0-optimized-compression-authentication-features-added-zos-cryptographic-toolkit/

Our new website

itech-ed.com/virtualims

Recent IMS articles

Staging Directory Support for DBRC Commands by Deepak Kohli on z Systems Developer Community (12 June 2020). You can find the article at https://developer.ibm.com/zsystems/2020/06/12/staging-directory-support-for-dbrc-commands/

IMS Catalog Changes without an Outage by Deepak Kohli on z Systems Developer Community (10 June 2020). You can find the article at https://developer.ibm.com/zsystems/2020/06/10/ims-catalog-changes-without-an-outage/

IMS Solution Packs Have Diverse and Needed Functionality by Joseph Gulla in IBM Systems Magazine (3 June 2020). You can find the article at https://ibmsystemsmag.com/Trends/06/2020/ims-solution-packs

Announcing the new IBM z/OS IMS collection to manage middleware components using Ansible by Haley Fung on IBM Z and LinuxONE Community (28 May 2020). You can find the article at https://community.ibm.com/community/user/ibmz-and-linuxone/blogs/haley-fung1/2020/05/26/ibm-zos-ims-collection-v1-1-0-beta2-release

IMS System Management With A Single Product Suite by Joseph Gulla in IBM Systems Magazine (26 May 2020). You can find the article at https://ibmsystemsmag.com/Trends/05/2020/ims-system-management

Securing Diagnostics for IMS by Sanjay Kaliyur on z Systems Developer Community (13 May 2020). You can find the article at https://developer.ibm.com/zsystems/2020/05/13/securing-diagnostics-for-ims/

IBM CICS and IMS Support Leading-Edge Development by Joseph Gulla in IBM Systems Magazine (4 May 2020). You can find the article at https://www.ibmsystemsmag.com/Trends/05/2020/cics-ims-leading-edge-development

Keep your IMS COBOL applications thriving by Sandy Sherrill on IBM Developer Blog (1 May 2020). You can find the article at https://developer.ibm.com/blogs/cobol-java-interoperability/

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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.