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.
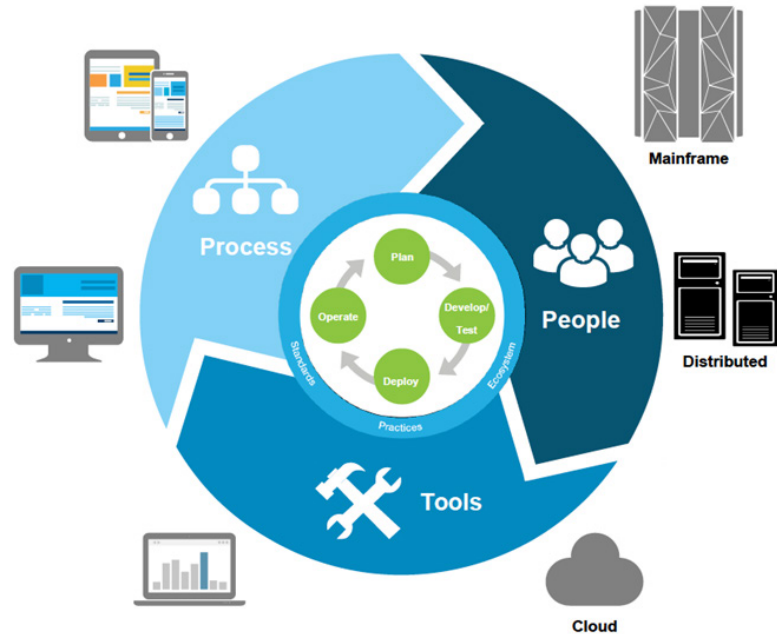
Virtual IMS user group presentation

The latest webinar from the Virtual IMS user group was entitled, "Innovate at Speed: Agile Development in Mainframe Shops", and was presented by David Lawrence, COP and Technical Enablement Lead, DevOps for Enterprise Systems, IBM Systems Middleware.

David has 30 years' experience working in software development and tooling. His roles have included consulting and training in a wide variety of solutions, including Rational ClearCase, ClearQuest, and Rational Team Concert. Currently David is responsible for managing the enablement of IBM's internal community of technical sellers for

Figure 1: What is DevOps?

system z Middleware. He also meets IBM's z software development customers, helping them to understand IBM's solutions and how to get the most value from them.
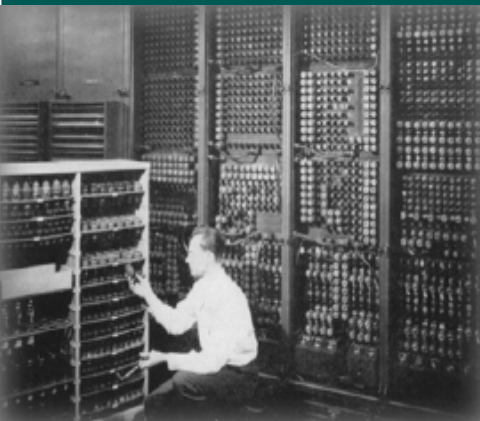
Figure 2: Eight DevOps practices that are the key to success

David started his presentation by introducing us to the idea of DevOps. He explained that DevOps is an enterprise capability for continuous software delivery
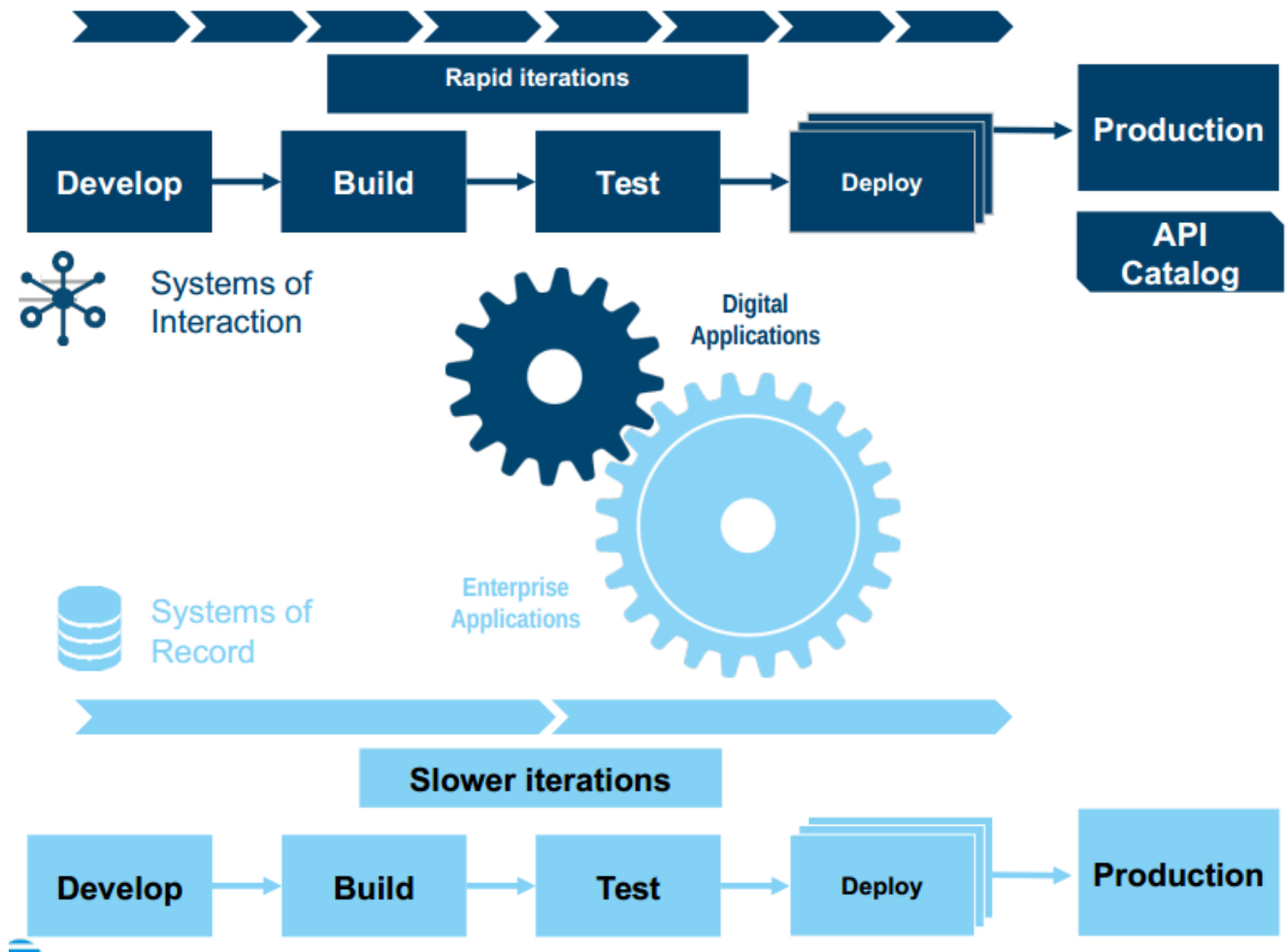
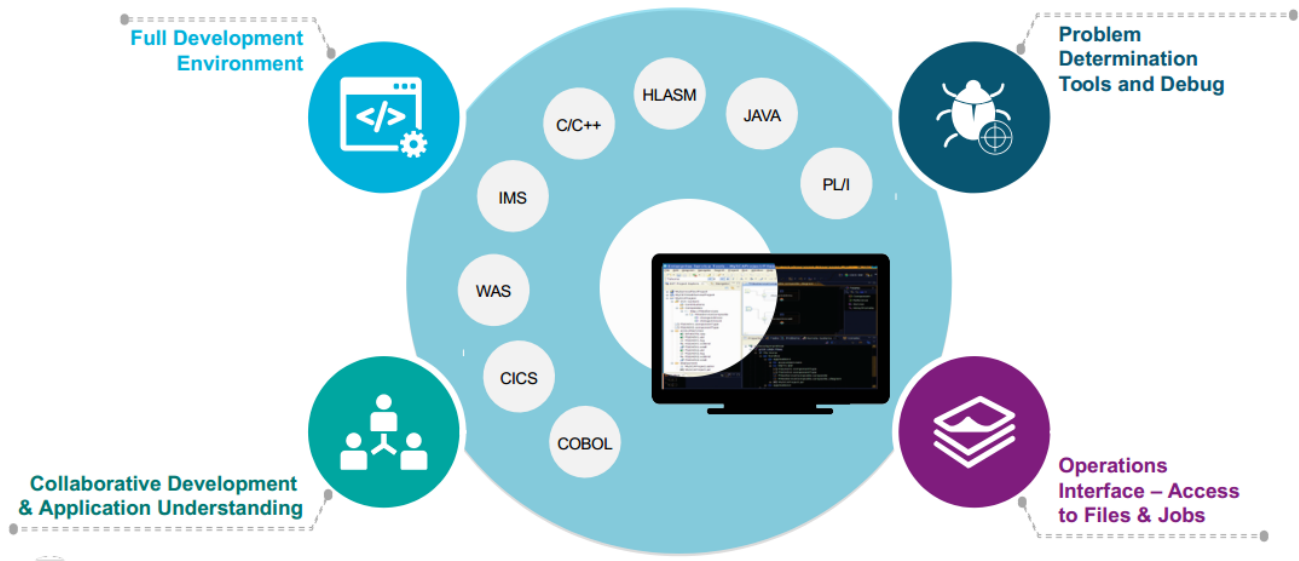

Figure 3: Two-speed development

Figure 4: Modern tools for multi-platform development and operations

that enables organizations to seize market opportunities and reduce time-to-customer feedback. DevOps is not a product, it's a way of working, across the entire life-cycle for all technologies and platforms (see Figure 1).

David explained that the new software imperative is for fast delivery with quality. The eight DevOps practices that are key to its success are illustrated in Figure 2.

David informed the user group that 34% of companies have "crossed the chasm" to critical 3-week delivery increments. He asserted that that there's a positive correlation between speed and business satisfaction.

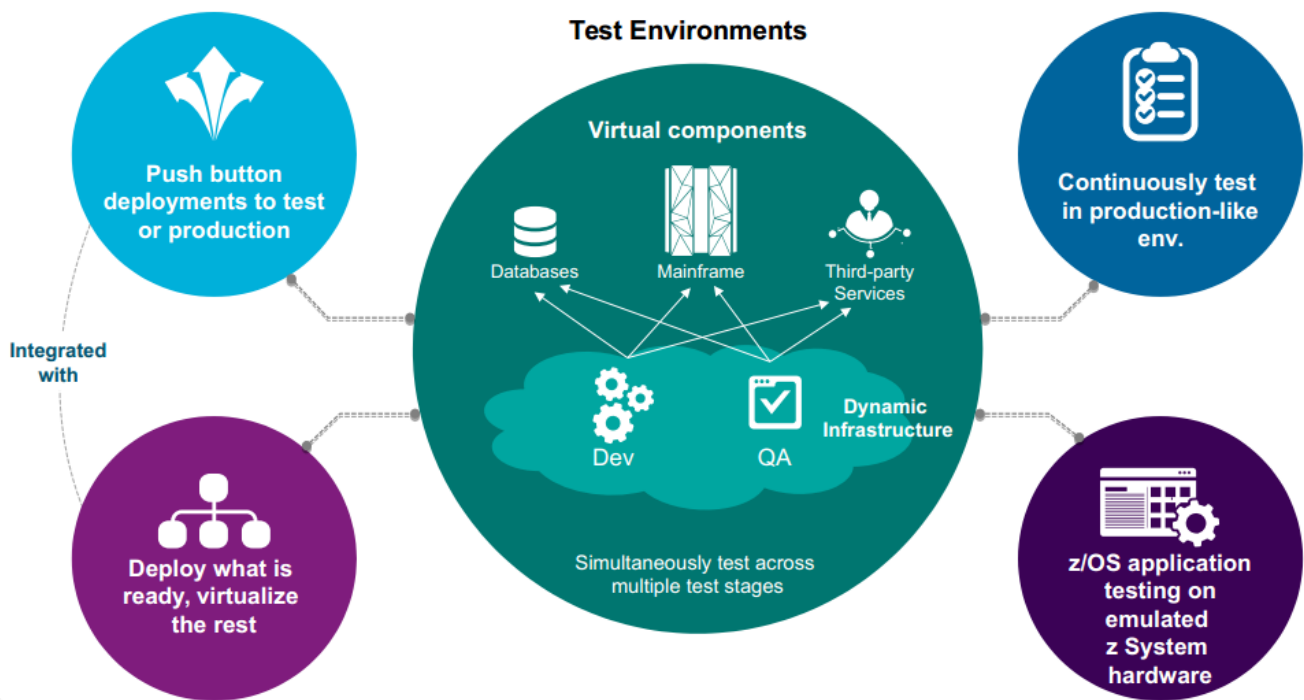He went on to say that building a DevOps culture is

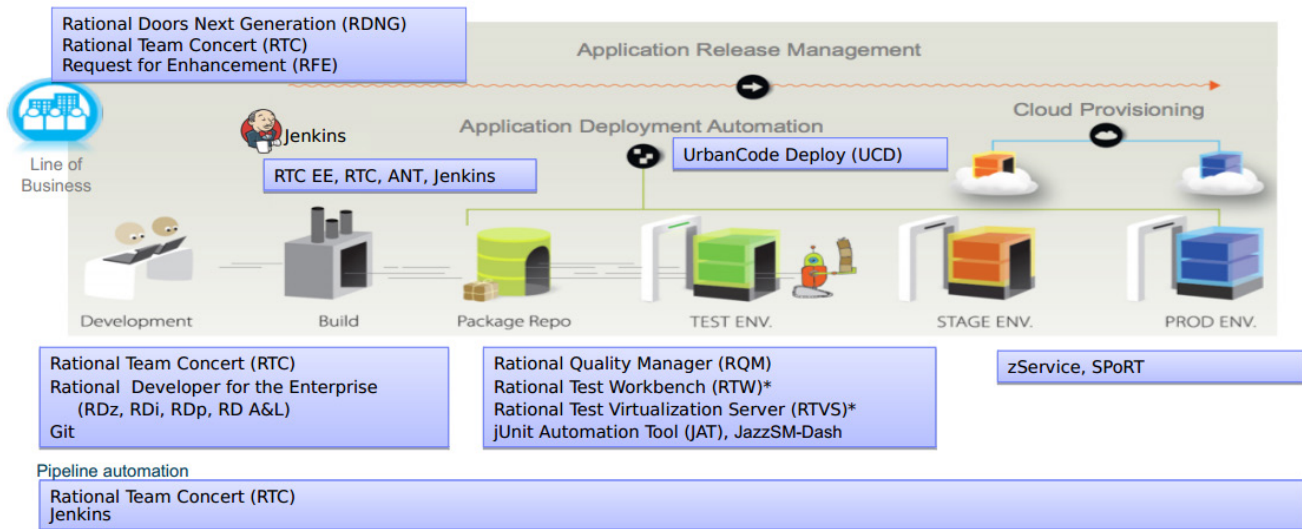**Figure 5: Deploy what is ready, virtualize the rest**

Figure 6: Continuous Integration Initiative – Golden Topology

grounded in lean and agile principles:

- Everyone is responsible for delivery

- There are common measures of success

- Team are empowered

- Staff mustn't underestimate the value of training and skills enablement.

In reality, applications and teams move at different speeds – see Figure 3. Enterprises need instrumented, automated coordination for two-speed IT. By the end of 2015, 75% of large organizations were expected to have adopted agile DevOps practices (IDC), and 25% of cloud developers indicated they were working on the development of cloud

apps from within a hybrid environment.

Figure 4 illustrates how modern tools for multi-platform development and operations fit with existing mainframe systems like IMS.

One of the benefits of moving to an agile team environment, according to IBM's David Law, is that it breaks down silos. It means disparate teams now start to work well together. He went on to say that the new way of working is to deploy what's ready and virtualize the rest – see Figure 5.

Figure 6 illustrates how continuous integration works and the products that can be used to achieve it.

When it comes to actually developing applications, IBM z/OS Explorer V3.0 Aqua Release provides: improved

user experience for all z/OS system programmers and application developers; Dev and Ops capability available on a common platform; improved consumability of z Systems Software Eclipse-based offerings; and simplified installation and maintenance experience of z Systems Software solutions.

Built on z/OS Explorer Aqua, IBM's Continuous Integration and IBM Continuous Delivery Teams Test infrastructure includes:

- CICS Explorer V5.3 and CICS Tools V5.3.

- Problem Determination Tools V13.1.

- Rational Developer for z Systems V9.5.

Once the application has been developed, it can be deployed to multi-platform
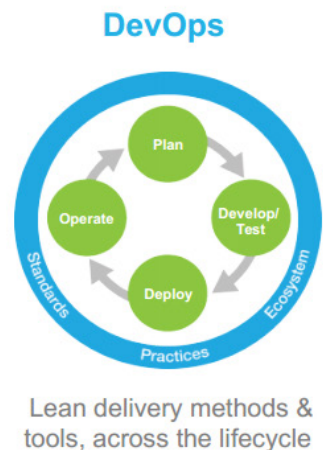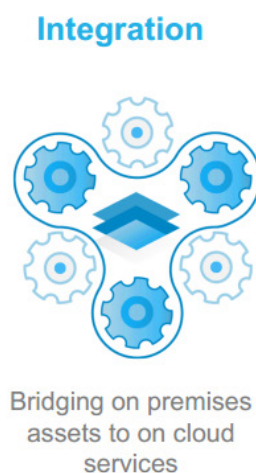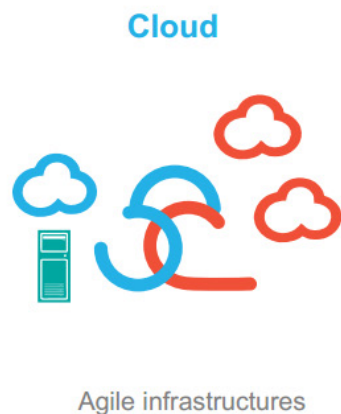
Cloud — Agile infrastructures

Integration — Bridging on premises assets to on cloud services

DevOps — Lean delivery methods & tools, across the lifecycle

Figure 7: Key enablers

environments – mainframes, distributed systems, and mobile applications.

In the future, IT operations will be able to manage anything from anywhere – with complete visibility across hybrid IT. They'll gain complete visibility and control over apps and infrastructure, and use embedded analytics for predictive and historic insights. Using DevOps, it's possible to automate and collaborate on workload and performance management. The system will provide continuous feedback and monitoring of all infrastructure that affects software delivery.

David Law told the user group that APIs power the modern, digital supply chain. Rather than rewrite code that performs the same job as existing code, the future is in using APIs. Developers can share, re-use, (re)combine,

and deliver new capabilities faster. They can do this by composing new capabilities using internally shared APIs and external APIs.

z/OS Connect Enterprise Edition's Runtime Server:

- Runs on Liberty z/OS
- Hosts APIs you define to run in it
- Connects with backend systems
- Liberty + z/OS Connect = "instance"
- You may have multiple instances.

The tooling platform:

- Integrates with an Eclipse environment
- Defines APIs
- Defines data mapping
- Deploys APIs to runtime servers

- Exports API archives.

IBM API Management will:

- Create APIs
- Publish APIs
- Socialize APIs
- Manage the API life-cycle.

IBM API Gateway provides:

- Security validation
- Access control
- Routing to APIs.

As the number of APIs grows, the need to systematically manage the APIs becomes apparent. API management provides a way to improve the business value of the APIs created.

Bluemix is a cloud Platform as a Service (PaaS) that supports several programming languages and services as well as integrated DevOps to build, run, deploy,
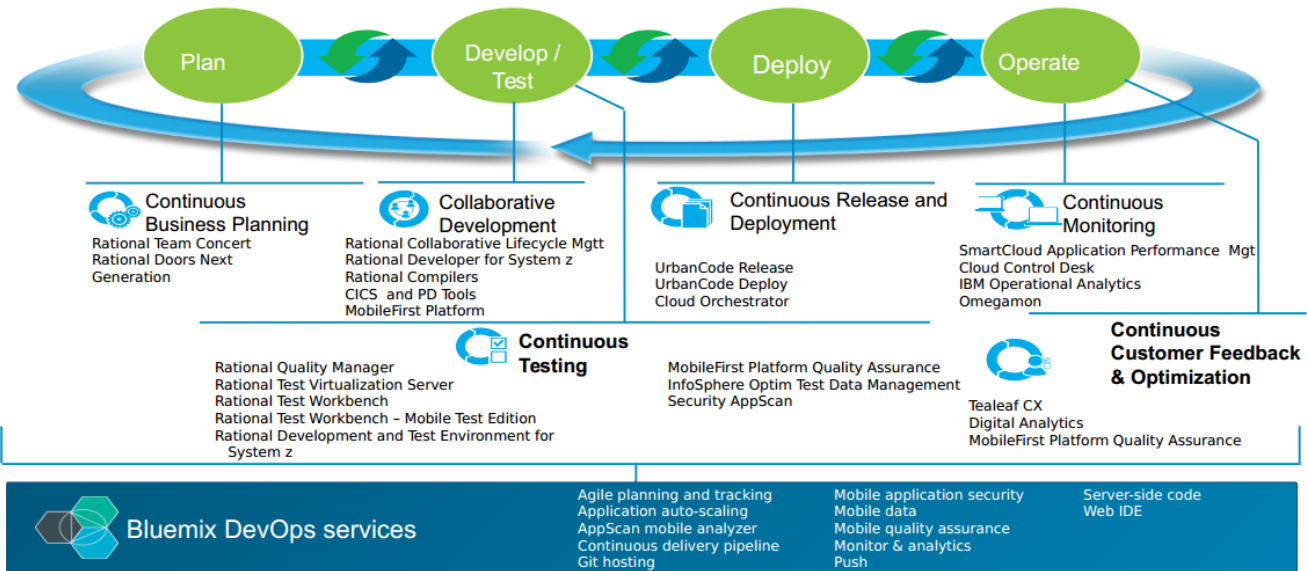
Figure 8: IBM's DevOps products

and manage applications on the cloud. Bluemix is based on Cloud Foundry open technology and runs on SoftLayer infrastructure. It can:

- Stitch an application from APIs and services

- Manage your APIs in private and public catalogs

- Integrate across hybrid environments, on and off premises

- Choose the appropriate deployment option.

This allows you to deliver your services to developers and access IBM's middleware and SaaS portfolios, as well as third-party and open services to build your apps.

The key enablers for building new digital capability with speed are illustrated in Figure 7.

DevOps addresses the bottlenecks across the application delivery life-cycle. The products available are shown in Figure 8.

David Law concluded by saying that DevOps is about transforming application development and delivery in order to accelerate digital innovation. So DevOps is a topic for both business and IT roles in the organization. You don't buy DevOps, you do DevOps. DevOps is an approach, a mindset – a combination of culture, process, and technology (including infrastructure, tools, and services). DevOps

is not only about the hand-off between Development and Operations, DevOps is about applying lean and agile principles across the application delivery lifecycle (biz-dev-test-deploy-operate) to achieve continuous delivery of digital innovation. The key concepts are automation and feedback loops.

A copy of David's presentation is available for download from the Virtual IMS user group Web site at www.fundi.com/virtualims/presentations/UnderstandingDevOpsApr16.pdf.

You can see and hear the whole user group meeting by downloading the WMV file from www.fundi.

com/virtualims/
presentations/2016-04-
12meeting.wmv.

Meeting dates

- On 7 June 2016, Rafael Avigad, Product Manager and IMS Tools SME, Fundi Software, will be discussing, "IMS Connect for Enterprise Workloads".

- The following meeting will be on 9 August 2016, when George Faucher from CorreLog will talk about, "Monitoring IMS".

IMS news

IBM has released a new z/OS Platform for Apache Spark, which enables Spark to run natively on z/OS. This makes it easier for data scientists and developers to apply advanced analytics on the rich data that is available for real-time insights.

The solution supports programming languages such as Scala, Python, R, and SQL. Data abstraction services allow analysts to interact with data in formats they use with traditional databases, such as IMS, VSAM, and DB2. The services also enable z/OS analytics applications to leverage standard Spark APIs. More information can be found at http://www-03.ibm.com/systems/z/os/zos/apache-spark.html.

Recent IMS articles

What's New in IMS Transaction Manager via the Service Process by Richard Schneider, Jack Yuan, and Yee-Rong Lai *in IBM Systems Magazine (March 2016)*. You can find the article at http://www.ibmsystemsmag.com/mainframe/administrator/ims/Transaction-Manager-Service-Process/.

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fb.com/VirtualIMS

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.