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 Open Database: You need to know what application developers do not know". It was presented by James L Martin, IBM Client Technical Professional – ITSM, IMS/ CICS Tools.

For the last 2 years, James has been a part of the IBM IMS Tools Technical Sales team. In his role as an IMS Tools CTP, James supports IMS Tools Usage, Knowledge, and Sales to North American customers. James is an ASTQB Certified Tester. Prior to joining IBM, he spent 12 years with Fundi Software, where he held various testing roles, including a 2-year stint as the Test Lead for
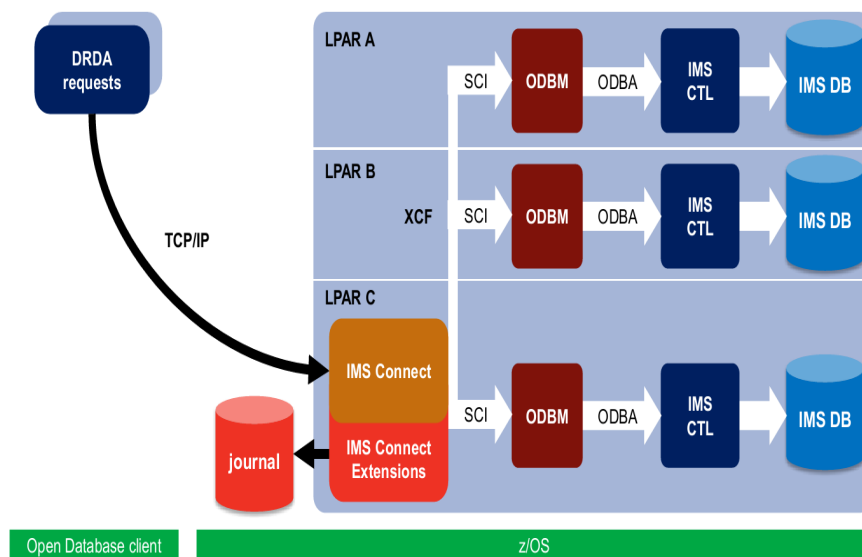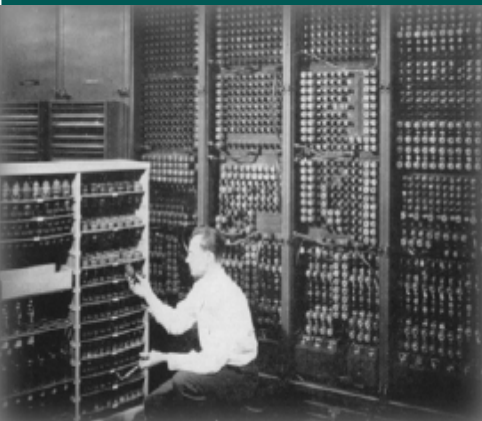

Figure 1: Open database environment

IMS Problem Investigator product, and was also one of Fundi's United States Representatives. In support of that role, James travelled to various conferences and customers in North America, South America, Europe, and Australia for speaking engagements and Product Technical Support.
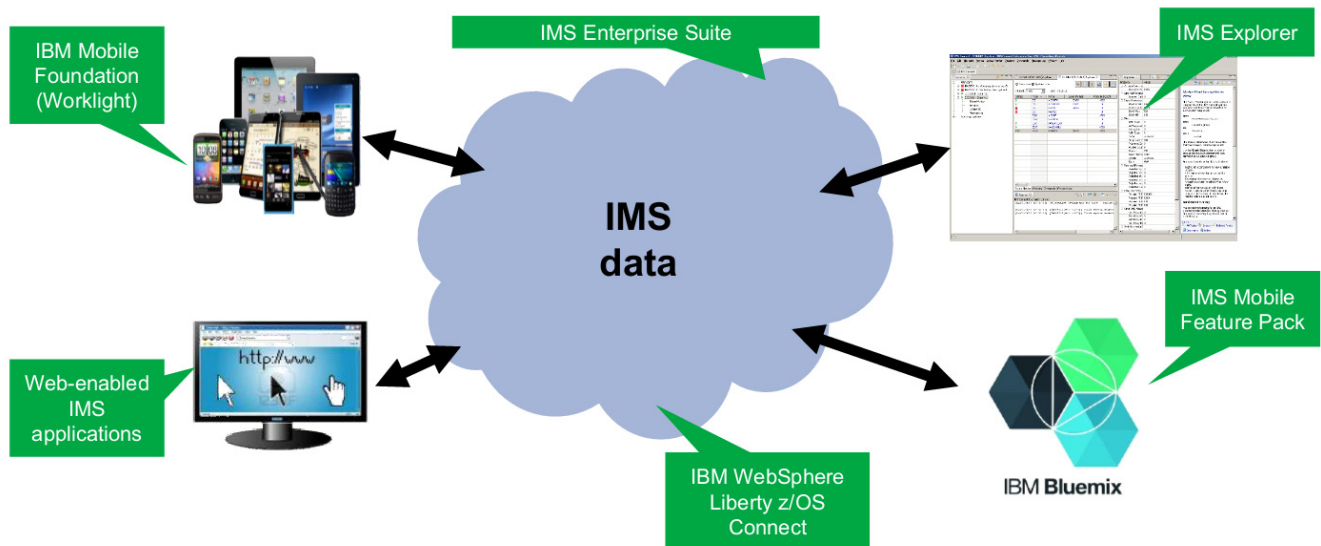
Contents:

Figure 2: Open Database environment

James started his presentation by looking at an Open Database environment (see Figures 1 and 2). Application developers, who are used to relational databases with tables and SQL (Structured Query Language), are now able to work on the same data with IMS administrators, who understand hierarchical databases, segments, and SSAs (Segment Search Arguments).

IMS Connect communications protocols include IRM and ODBM. IRM (IMS Request Message):

• Traditional IMS Connect workload.

• Client message header communicates protocol options to IMS Connect.

• Allowed access to IMS transactions.

DRDA (Distributed Relational Database Architecture):

• Describes the contents of data objects that flow on messages between client and IMS Connect.

• DDM (Distributed Data Management architecture) describes the commands, parameters, data objects, and messages.

• Client application requests can (optionally) specify an ODBM alias name to IMS Connect (otherwise, messages are routed in a "round robin" fashion by IMS Connect – but you can get advanced routing and load balancing through IMS Connect Extensions).

• Well-established standard published by The Open Group (http://www.opengroup.org/).

IMS Connect:

• Supports Open Database DRDA client requests over TCP/IP.

• Instrumentation points (HWSTECL).

• Exit points for customizing security and workload routing (HWSAUTH0 and HWSROUT0).

• IMS Connect Extensions add events journal, routing, workload balancing, security, and more.

Open Database Manager (ODBM):

• Part of Common Service Layer (CSL)

• A path between IMS Connect and one or more IMS datastores
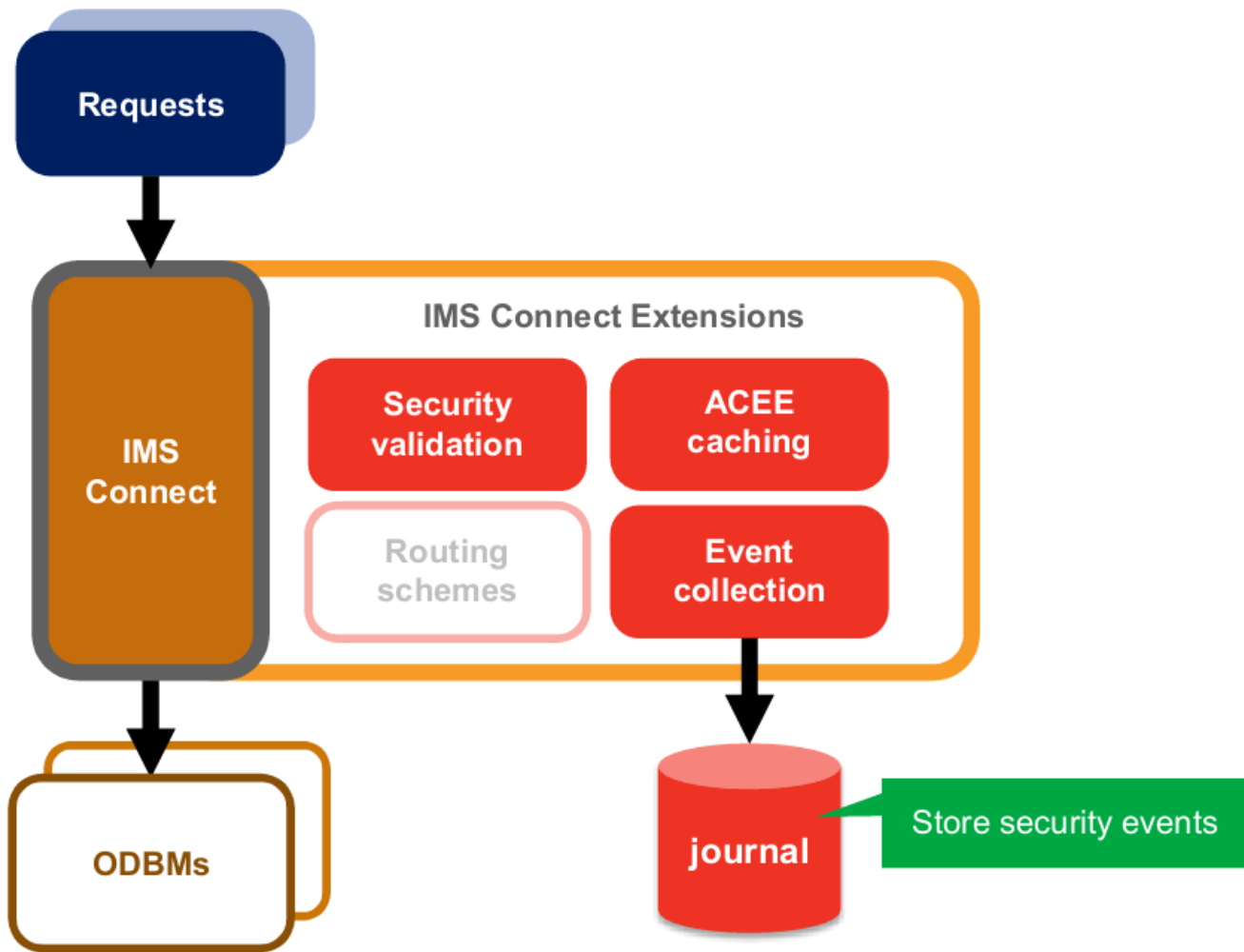
• Uses the ODBA (Open

Figure 3: Security validation

Database Access) callable interface to communicate with IMS

- Each IMS datastore may have one or more Open Database aliases

- May have multiple ODBM address spaces for each IMS Connect.

Distributed Data Management (DDM) architecture:

- Used to communicate data management requests

- Requests contained within an object mapped onto a data stream

- Three layers:

  – Layer A: Communications management services (flow protocols)

  – Layer B: Agent services (parsing)

  – Layer C: Data management services

- Data Stream Structures (DSS) are how the DDM architecture sees each communication facility.

James L Martin described the DDM command structure. James looked at what happens in an Open Database life-cycle. He looked at DRDA requests and responses; a start Open Database conversation; security validation (see

Figure 3); connecting to an ODBM via routing; establishing connection to the database; balancing Open Database workloads to reduce running costs; accessing the database; and committing all work.

James L Martin concluded by saying that understanding Open Database standards is vital to diagnosing problems when they occur. Expertise is required when tracing client requests. The client application programmer may only know SQL, but the tools provide insights into how that SQL is translated into DRDA requests and IMS calls. Tooling can also help with:

• Instrumentation and problem diagnosis

• Security

• Workload distribution and balancing

• Automation.

A copy of James' presentation is available for download from the Virtual IMS user group Web site at www.fundi.com/virtualims/presentations/IMSODBMJun17.pdf.

You can see and hear the whole user group meeting by downloading the WMV file from www.fundi.com/virtualims/presentations/2017-06-06meeting.wmv.

Meeting dates

• On 15 August 2017, SQData's Scott Quillicy will be presenting "Big Data Streaming – IMS to Apache Kafka and Hadoop".

• The following meeting will be on 10 October 2017, when Kieco's Henry Kiesslich will be discussing "IMS catalog".

Recent IMS articles

Curious about IMS RFEs? by Jasminder Singh on LinkedIn (2 June 2017). You can find the article at https://www.linkedin.com/pulse/curious-ims-rfes-jasminder-singh.

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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 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.